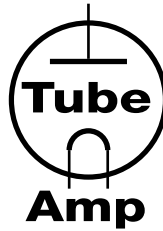


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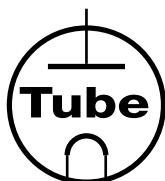
Midi Tube Preamp 580

Programmable Guitar Tube Preamp

Operator's Manual

Please, first read this manual carefully!

ENGL



**Amp
Technology**

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CAUTION! Please read and heed the following:

You'll find an additional pamphlet accompanying this owner's manual entitled "Instruction for the prevention of fire, electric shock or injury of persons". Be sure to read it before you plug the preamp in and switch it on!

Note: Technical specifications are subject to change without notice.

Congratulations on your purchase of an **ENGL** MIDI Preamp E580! Marrying tried-and-true **all-tube technology** to state-of-the-art microchip-powered technology, this groundbreaking guitar preamp sets new standards with its **sheer audio brilliance—tone, authenticity and sonic variety** is what this baby is all about. Fully programmable control features and ten sound-shaping buttons put an arsenal of voicing tools at your fingertips. Many of these features **shape the soundscape in ways we believe you have never heard before**, and the **virtually infinite variety of options** boggles the mind.

You'll soon discover that this preamp conjures up **extremely sophisticated tones** that nonetheless **sound earthy and authentic courtesy of its tube-driven circuitry**. To make this marriage of two disparate worlds work, the sound-shaping features are controlled by a multiprocessor computer system equipped with three microcontrollers that work hand in hand with advanced multitasking software.

What all this means to you:

1. utmost ease of use and remarkably intuitive handling
2. excellent sound-shaping options and greatest flexibility courtesy of its many special features and programming possibilities
3. one preamp for every gig - live, studio and home-recording - featuring an onboard programmable speaker simulation system
4. extremely wide range of sounds produced by custom-designed, programmable filter systems in the individual tube stages
The different sound-shaping buttons actually shape the characteristic curve. This technology can't be realized with conventional tube preamps, which is why this preamp is literally one of a kind.
5. processor-controlled knobs and buttons allow stored sounds to be reproduced with absolute precision any time, anywhere, under any operating conditions
6. You are now the proud owner of an ultra-advanced sound-generating machine that will give you years of playing pleasure and value to boot.

Features and Functionality at a Glance

- > 256 presets. Directly selectable via MIDI and freely programmable, these presets are grouped in two banks, A and B, and addressed via different MIDI channels. This affords you the convenience of using one bank for live gigs and the other for studio work.
- > 40 factory presets with preprogrammed audio examples that you can edit and copy to MIDI presets as desired.
- > Manual mode in which the preamp operates just like a conventional preamp.
- > A shadow preset is assigned to each MIDI preset, serving much the same purpose as the trash basket you may be familiar with on computers.
- > Non-programmable Master that may optionally be controlled in real time via an external MIDI volume foot pedal.
- > The knobs are rotary encoders with an infinite control range. The advantage of these knobs is that you can access a stored setting directly no matter what the knob's actual position may be and adjust the setting in real time.
- > 11-segment circular LED chains. One of these surrounds each knob, indicate its current setting. The LEDs flash when a MIDI preset's settings are changed. The display also shows steps in increments while you are changing a setting.

- > Tube-powered stereo effect loop; wet effect signal may be mixed with the dry preamp signal from 0 -100% (that's parallel to serial). This setting is programmable.
- > Passive 4-way tone controls. You can modify the voicing section's EQ characteristics by means of the Contour button.
- > Stereo outs with level switch for routing signals to a stereo power amp.
- > Stereo line outputs. These are frequency-corrected (or, if you prefer, compensated) and equipped with programmable filters offering different loudspeaker and cabinet characteristics. The preamp comes with two versions of these outs, stereo 1/4" jacks for connecting recording gear, and balanced XLR outs for feeding the preamp signal to mixing consoles.
- > MIDI IN, THRU, OUT ports let you integrate the preamp into a MIDI system.
- > RS232 interface for remote control via PC and downloading software updates.
- > Remote Control Panel software for PC gives you a bunch of nifty features for controlling preamp remotely from a computer.

Selected quality components, excellent workmanship and strict quality control ensure this preamp retains its value over the long run. Guidelines on care and maintenance of tube amps are on page 47. Please be sure to read these before operating your preamp. You'll also come across boxes shaded gray throughout the manual. Sandwiched by descriptions of the preamp's various functions, they offer contain handy tips on the aforementioned function. All critical information pertaining to the operation of this preamp is preceded by "NOTE", "CAUTION", "Read and heed" or some other eye-catching comment. We're calling your attention to these remarks for reasons of safety or other compelling reasons, so please give them due consideration

The ENGL team wishes you all the best—may you and your preamp enjoy an harmonically rich future together!
 Everyone at ENGL is convinced that this tube preamp's astonishing versatility and unrivalled features are sure to delight you: Just plug in, play, store your favorite settings, and enjoy the sound!

A few words of wisdom from the designer:

Though this preamp is relatively easy to handle and you're probably raring to give it a go, I recommend you read the owner's manual thoroughly before you power the preamp up. Particularly in handshake mode with a personal computer, there are some very important things you need to know to avoid malfunctions. Don't be daunted by the preamp's outward complexity. Yes, it is sophisticated, but it is very easy to use once you get the hang of it. In this manual, I've described the features and functions of the preamp in a hopefully enlightening variety of ways, in some cases, with accompanying illustrations. These should explain everything you need to know about your preamp and make handling a piece of cake.

Contents:

1. ENGL MIDI Tube Preamp 580;
2. 3,5" Disk with Software "Remote.exe" and "readme" files;
3. One connector cable 7 m in length (Sub D-9, male & female connector 1:1);
4. This Operating Instructions;
5. A pamphlet entitled "Instruction for the prevention of fire, electric shock or injury of persons"

Front Panel Features

As you're reading these descriptions of the preamp's features, you'll gain a better understanding of the topic at hand if you unfold of the diagrams of the front and rear panels at the back of the manual and refer to them as we go!

1 INPUT

Plug your electric guitar into this ¼" jack.

If you choose to mount the amp in a 19" rack system, you can also route the signal in via the Auxiliary jack (41) located on the rear panel of the preamp. Input jack 1 on the front panel has priority, meaning that the signal patched into the Auxiliary jack is cut off whenever a plug is inserted into the front panel jack.

Sound-shaping Features: Knobs (Rotary encoders)

A word about these knobs:

The Gain (2), Bass (3), Lo Mid (4), Hi Mid (5), Treble (6), Effect (7), and Volume (8) knobs offer a control range comprising 21 steps. Like the status of the sound-shaping buttons, the settings of these knobs may be programmed to MIDI presets 1 to 128, bank A and bank B. The 11-segment LEDs surrounding every knob indicate the given knob's current setting.

Odd-numbered steps are indicated by a single LED. Take, for example, step 5 or the fifth increment on the scale. It is indicated by the third LED from the left. Even steps are indicated by two neighboring LEDs. For example, the first and second LEDs of the scale light up to indicate step 2, and so forth.

You can change every setting of any MIDI preset directly, meaning there's no programming involved. Simply grab a knob and rotate. When you do this, that change you have made activates MSF (memory status feature) and the given LED will flash, telling you that this knob's setting in a MIDI or factory preset has been edited. The circular and segmental LED chains always show the knobs' current settings. In addition, steps are indicated in the display as decimal numbers as you dial in a new setting. By giving you precise indications of any given value, this feature lets you adjust knobs more swiftly and accurately, particularly when you're in a hurry.

The Master knob is an exception to this rule. Its workings are described in detail in section 9 below.

2 GAIN

This knob controls input sensitivity for all of the preamp's operating modes. For Crunch, Soft Lead and Heavy Lead modes, it determines the amount of preamp saturation. The AFC controls an internal filter that operates in parallel to the Gain knob, automatically adapting and optimizing the frequency response of the preamp to best match the setting you have selected.

A tip from the designer:

On account of its programmability, the preamp's Gain knob's response is different than you would expect from gain controls found on conventional preamps. The signal is not muted completely when you set it to step 1. For this reason, you can dial in extremely low input levels for extremely high-level guitar signals. That puts the low gain control range below step 5 (about the 9 o'clock position) to good use, which is rarely the case on a conventional amp.

CAUTION: Extremely high gain and volume settings in Lead mode can lead to high-level feedback. Avoid those dreaded feedback squeals, they can damage your hearing loss and speakers!

3 BASS

As its name would indicate, this is the passive 4-way voicing section's Bass knob. It interacts with the other tone controls, and it is influenced by the Contour button's setting.

4 LO MID

This knob of the passive 4-way voicing section shapes the low mids within a frequency range of 300 Hz to 500 Hz.

The Lo Mid knob interacts with the other tone controls, and it is influenced by the Contour button's setting.

5 HI MID

This knob of the passive 4-way voicing section shapes high mids above a frequency of 1.5 kHz. The Hi Mid knob interacts with the other tone controls, and it is influenced by the Contour button's setting.

6 TREBLE

This is the passive 4-way voicing section's treble knob. It interacts with the HI MID control.

7 EFFECT

This knob determines the amount of wet or effect signal when a signal processor is inserted in the effects loop. It starts with a wet balance of 0%, sweeping through the control range and finally arriving at step 21, which gives you a wet balance of 100%. To prevent signal degradation and loss, a tube-driven passive circuit mixes the wet and dry signals.

Note: Whenever the effects loop is not in use, be sure to set the Effect knob to step 1!

8 VOLUME

This knob determines the basic level of the preamp. You can use it to balance levels as you see fit by dialing in different or identical levels for different presets. For this reason, Volume knob settings may be stored, which you can't do for Master knob settings.

9 MASTER

This knob determines the overall output level. Bear in mind that this level will depend on the Volume knob setting. Master knob settings can't be stored and, in contrast to the Volume knob, its setting remains the same when you activate other presets. The Master knob's control range comprises 11 steps, whereby each step is indicated by a separate LED. You can control the Master level remotely via an external MIDI volume pedal. For this purpose, be sure to set the Volume parameter located in the setup to On (see Control Features).

10 POWER

This is the mains power button that switches the preamp on and off.

Sound-shaping Features: Buttons

The sound-shaping buttons' statuses may be programmed to MIDI presets 1 through 128, bank A and bank B. An LED located above every sound-shaping button indicates its current status.

11 PREAMP DEFEAT

This is a bypass that cuts the preamp out of the signal chain when you press the button. In this case, the input signal is routed directly to the Send jack. The LED located above the button illuminates to indicate the preamp is bypassed.

A tip from the designer:

This option comes in handy when you want to insert another preamp or an effect processor into a serial loop along with the MIDI Preamp E580. If the other preamp can also be bypassed, you can switch between the two preamps on the fly or even run them both at the same time. If you want to connect a second preamp, insert it into the stereo effects loop and set the Effect knob to step 21 when you want activate the second preamp. You could even daisy chain several preamps or effect processors.

12 CLEAN LEAD

This button switches back and forth between Clean and Lead preamp operating modes. The LED lights up to indicate Lead mode is active.

13 GAIN LO HI

Use this Gain control to set and activate different preamp saturation levels for the two operating modes Clean and Lead. In Clean mode, your options are Clean or Crunch, in Lead mode they are Soft or Heavy Lead. The LED lights up to indicate Gain Hi is active.

A tip from the designer:

The gain ranges of the different operating modes overlap a tad, meaning that you can dial in some dirt in Clean Gain Lo mode with high Gain settings similar to what you get when you dial in low Gain settings in Clean Gain Hi mode. However, the frequency response and dynamics of the two operating modes are different, which adds even more interesting hues and textures to your tonal palette.

14 BOTTOM

This sound-shaping feature changes the preamp's bottom end frequency response in all operating modes. You'll perceive a considerable boost in bass frequencies when you activate it. The LED lights up to indicate the Bottom bass boost circuit is active.

A tip from the designer:

When you're using a guitar equipped with bass-heavy pickups, you are well-advised to switch this feature off to prevent it from muddying your tone, particularly at higher Gain settings.

In fact, you should make a habit of deactivating this feature at higher Gain settings (take that to mean anything over step 15), otherwise your distorted tone will become far too sludgy.

15 CONTOUR

This feature gives you another option for shaping predominantly mid-range frequencies. When it is off, the Lo Mid knob affects the 500 Hz range, when it is on, the knob affects the 300 Hz range. The LED lights up to indicate Contour is active.

A tip from the designer:

The Contour knob shifts the entire frequency range of the voicing section so that—by virtue of that handy storage option—you actually end up with two separate sets of tone controls. Try activating Contour when you're going for classic clean tone. Switch Contour off when you want something a little more contemporary and direct—that modern in-your-face sound, if you will.

16 BRIGHT

This function boosts the upper frequencies in all operating modes. The LED lights up to indicate Bright is active.

A tip from the designer:

For a crispy or glassy tone, set the Bright switch to the On position. This setting brightens the sound of humbucking or any other muddy pickups.

17 CLEAN ULTRA BRIGHT

Though this option affects the Clean channel only, it boosts the upper end of both clean (in Gain Lo mode that is) and crunch (Gain Hi) sounds. Though this is indeed a treble boost, it affects frequencies that lie somewhat lower than the highest frequencies in the spectrum. The LED lights up to indicate Ultra Bright Clean is active.

A tip from the designer:

Activate this feature to conjure really glossy clean sounds. Great for doing the country twang thing and spanking the funk plank, it also adds some top-end shimmer to dark or muddy pickups. You'll find it easy to dial in loads of top-notch tones in combination with the Contour and Modern/Classic sound-shaping buttons.

18 MODERN/CLASSIC

This button switches between two fundamentally different voicings, modern and Classic. The LED lights up to indicate Classic is active.

A tip from the designer:

The modern voicing is less dynamic, offering fewer mid-range frequencies. You'll find that its voicing becomes far more prominent when you're running the preamp at higher gain levels to evoke more distorted sounds.

Modern is your best bet for heavier sounds, Classic fits the bill for vintage styles. For lead sounds you generally want tones that pack a punch powerful enough to cut through the din. For this sonic scenario, I recommend you either activate Contour for a Lead/modern configuration or stick with Classic.

19 RECORDING OUT BASS

This feature affects the filter system of the frequency-compensated Line Out only; it will not affect the regular stereo outs when activated. When you switch this option on, it boosts the bottom end of the Line Out filter. The LED lights up to indicate the bass boost for the Line Out filter is on.

20 RECORDING OUT TREBLE

This feature affects the filter system of the frequency-compensated Line Out only; it will not affect the regular stereo outs when activated. When you switch this option on, it boosts the top end of the Line Out filter. The LED lights up to indicate the treble boost for the Line Out filter is on.

A tip from the designer:

With these two EQ parameters, you can opt for different filter settings to simulate different types of speakers and cabinets. You should activate Rec Out Bass (19) when you want to emulate a closed-back 4x12 cab. To avoid nasty overtones (at least that how we feel about overly nasal honk) in the recording output in Lead mode, I recommend you switch Rec Out Treble (20) off when you're running the preamp in this operating mode. On the other hand, if you want really spiky clean sounds, feel free to activate it and store it in the appropriate MIDI presets.

21 STATUS DISPLAY

These three seven-segment displays tell you which of the preamp's various operating modes are currently active. After you power the preamp up, the ENGL logo cycle through the display from right to left twice while the preamp carries out an internal system check. Then the display will show 000, which indicates Manual mode.

MIDI, factory and shadow presets are indicated by three digits, for example, MIDI preset 1 appears in the display as "001". When you rotate a knob, the steps are indicated by two digits, for example, step 3 on any knob appears in the display as "03". The first zero falls by the wayside to make it easier for you to distinguish between presets and settings in the display. To learn more about the various display functions and statuses, consult pages 26 to 38, Handling MIDI and Programming Functions.

Control Features

This category of features is comprised of administrative rather than sound-shaping functions. Due to space constraints on the front panel, some functions are activated by pressing two or three buttons simultaneously. However, this applies primarily to the lesser used options; you'll find the most important functions are accessible directly via a single button.

22 DOWN

This button is decremental, meaning that it activates the next lower preset number every time you press it. If you're in a hurry or have a long way to go between numbers, hold the button down to scroll more swiftly through the presets. Note that the preamp won't switch to another sound until you release the button. If you hold the button down for more than three seconds, the system switches to Hi Speed Preset Select mode, meaning that it races through the selection of presets.

In combination with other control buttons, you can activate a variety functions that are described in detail on pages 13 to 15 in the section entitled "Combination Control Features".

23 UP

This button is incremental, meaning that it activates the next higher preset number every time you press it. If you're in a hurry or have a long way to go between numbers, hold the button down to scroll more swiftly through the presets. Note that the preamp won't switch to another sound until you release the button. If you hold the button down for more than three seconds, the system switches to Hi Speed Preset Select mode, meaning that it races through the selection of presets.

In combination with other control buttons, you can activate various functions that are described in depth on pages 13 to 15 in the section entitled "Combination Control Features".

24 MANUAL

This button sets the preamp to Manual operating mode, which is actually something of a misnomer. More a status than an operating mode, Manual describes the state of the preamp when no preset is active. Manual is the default, it is activated once you power the preamp up and the system has finished running its internal system check.

When you opt for this operating mode, you can't store settings, meaning that the preamp handles like a conventional non-programmable preamp. The most recent settings of all knobs and buttons are stored automatically when you switch the preamp off. This means that whatever configuration you dialed in the last time you used the preamp will be available by default when you switch it on again. What's more, when you activate Manual mode you can press and hold the Manual button for some three seconds to go from any MIDI or factory preset immediately to the most recently activated preset (Preset Back Skip).

Manual mode is indicated in the display by 000. Note that this operating mode can't be activated via MIDI.

You can activate special selection options in Manual mode, for example, MIDI Channel Select mode; these are accessed in combination with other control buttons as described on pages 13 to 15 in the section "Combination Control Features".

A tip from the designer:

Switching from Manual mode to a MIDI preset via the Manual button (Preset Back Skip) comes in handy when you want to compare two different sounds without a lot of navigating fuss. Think of Manual mode as a blank canvas: Dial in any sound you see fit and then store it to a MIDI preset. You'll find out how this is done on page 32.

Manual is also useful when you want to go from a higher number MIDI preset (say preset 69) to factory presets in a hurry. And if you accidentally activate Manual, for instance when you're selecting a shadow preset, you can immediately return to the given MIDI preset.

25 WRITE/COPY

This option lets you save a MIDI preset's edited settings (in this context, "edit" simply means changing settings). The system will select a Write operation whenever you edit a MIDI preset. You'll know that this is the case because when you rotate a knob or press a sound-shaping button, the corresponding LEDs flash. A Write operation is executed exclusively for MIDI presets. Here's how you can distinguish between Write and Copy: with the former you're actually programming or writing a new MIDI preset, with the latter you're making an exact duplicate of an existing preset.

So the system will select Copy if you did not edit a MIDI preset. This means that the given preset becomes the source, and its unedited contents are dumped to another preset. The center decimal point in the display illuminates to indicate a Copy operation is underway. If you activated Copy accidentally, you can cancel that command by pressing the MANUAL button. The system will cancel Copy if you don't activate a new preset within some 30 seconds.

The programming process—the Write command, that is—is not carried out as soon as you press the button. First the preset number will begin flashing in the display to indicate that the preamp is about to program this preset. The reason for this is to prevent inadvertent programming. You can cancel the programming process at any time during this phase.

The preset will only be programmed successfully if you press and hold the button until the preset number in the display stops flashing, and the LEDs of the knobs and sound-shaping features that you have edited stop flashing.

You'll have to go through the same routine to copy a preset once you select a target preset.

In this case, the original contents of the MIDI preset are automatically dumped to the corresponding shadow preset. The same thing applies when you overwrite a target preset by means of the Copy option.

Copy is always activated for factory presets as well as in Manual mode whenever you edit a setting.

You can protect every MIDI preset against unintentional overwriting by locking it. Once you have locked a preset, it can't serve as the target of a Write or a Copy operation. A locked preset can, however, serve as the source of a Copy operation.

A tip from the designer:

Descriptions of seemingly complicated functions like the one above can sometimes be hard to follow. For this reason, this owner's manual includes some diagrams that illustrate the diverse procedures step by step. Hopefully, these will make easier to understand these processes. You'll find these hands-on explanations on pages 25 to 38.

Combination Control Features

This category comprises all control features that require two or three control buttons to be pressed simultaneously. Try to make a habit of pressing these buttons at precisely the same time, otherwise the function of whatever button you press first will be activated.

MANUAL & DOWN: Activates preset bank A.

You can switch to bank A by pressing these two buttons at the same time. Though this will work in Manual mode as well as when you have activated a MIDI preset or a factory preset, it is actually designed for MIDI bank switching purposes. We didn't disable this function for Manual mode and factory presets, but it won't actually do anything because neither Manual mode nor factory presets make a distinction between banks. You can switch banks until the cows come home, the given memory slot will always remain the same.

Bank A is indicated in the display without the decimal point at left.

The MIDI channel setting always applies to the currently active bank. If the decimal point between "c" and "h" (c.h.) in MIDI Channel Select mode doesn't light up, this tells you that the MIDI channel setting applies to bank A.

MANUAL & UP: Activates preset bank B.

You can switch to bank B by pressing these two buttons at the same time. This will work in Manual mode as well as when you have activated a MIDI preset or a factory preset. Please be aware that although you can do this for Manual mode and factory presets, this option is meaningless because there is no subdivision of banks. The memory slot will remain unchanged.

Bank B is indicated in the display with the left decimal point.

The MIDI channel setting always applies to the currently active bank. If the decimal point between "c" and "h" (c.h.) in MIDI Channel Select mode lights up, this tells you that the MIDI channel setting applies to bank B.

A tip from the designer:

In my book, 256 MIDI presets plus 256 shadow presets should satisfy the storage requirements of even the most obsessive control freak. If you're one of those people who can't imagine what all these memory slots could possibly be good for, let me propose the following use for the second bank to you:

Courtesy of its tunable Line Out filter, the preamp is great for studio gigs and hard disk recording. If you find yourself in either of these situations, it would be a good idea to organize the presets you use for gigging in one of the two banks and your studio presets in the other. It gets better: By defining suitable MIDI channels on the MIDI footboard and the preamp itself, you can always switch to the same preset number for the same part in every song for live and studio gigs, yet still call up different settings that suit the given application. That makes it so much easier to find the desired preset, and you don't have to memorize different preset numbers for live and studio applications. This option pays off even if you use it to store just a dozen different sounds programmed for live and studio gigs.

MANUAL & WRITE in Manual mode: MIDI Channel Select mode.

Press these two buttons simultaneously while the preamp is in Manual mode to activate MIDI Channel Select mode. This mode lets you determine the desired MIDI channel for the currently active bank. The display shows ch. (short for channel) briefly and then the MIDI channel, for example c01 or on1 for OMNI. Off tells you that the reception of MIDI data is deactivated for the respective bank. Set the desired MIDI channel using the UP or DOWN buttons. If the display flashes for one or several channels, this means that the given channel has already been assigned to the other bank. If a bank is set to OMNI, all MIDI channels are locked for the other bank. In this case, the other bank can only be set to Off.

After you have selected the desired MIDI channel, store it by pressing the Write button.

Again, be sure to hold the Write button down until the display reads 000 to indicate Manual mode and the display no longer flashes. Otherwise, the Write operation will be canceled before the channel setting is stored.

Press the MANUAL button to quit MIDI Channel Select mode without storing a channel.

If no other function is activated, the system will quit MIDI Channel Select mode automatically after about 12 seconds.

DOWN & UP in Manual mode: Volume Controller Setup mode.

Press these two buttons simultaneously while the preamp is in Manual mode to activate Volume Controller Setup mode. This mode lets you set up the preamp so you can control the Master level remotely via a MIDI volume pedal. Once you have pressed the two buttons simultaneously, the display will read Vol for about two seconds. Then it will indicate the current status, which will be either On or Off.

You can quit Volume Setup mode without changing its status by pressing the Manual button (for example, if you just want to view the current status). Use the UP or DOWN buttons to change the status from On to Off and vice versa. Press the Write button to store the new setting. Again, be sure to hold the Write button down until the display reads 000 to indicate Manual mode and the display no longer flashes. Otherwise, the write operation will be canceled before the setting is stored.

If no other function is activated, the system will quit Volume Controller Setup mode automatically after about 12 seconds

MANUAL & WRITE while a preset is activated: Switching to a shadow preset.

Press these two buttons simultaneously while a MIDI preset is active for approximately three seconds and the preamp will switch to the shadow preset of that MIDI preset.

The shadow preset contains this MIDI preset's settings as they were before you edited them or copied another configuration to this memory slot. You can quit the shadow preset at any time by pressing the Manual button.

The contents of the shadow preset and the contents of the MIDI preset are swapped when you press the Write button. This means that the old (overwritten) setting is dumped back to the MIDI preset and the current (new) setting of the MIDI preset is dumped to the shadow preset. Shadow and MIDI presets can only be swapped if the given preset is not locked. Again, be sure to hold the Write button down until the display indicates the MIDI preset number and the three decimal points no longer flash. Otherwise, the write operation will be canceled.

The preamp quits the shadow preset automatically after approximately 6 seconds, and the system switches back to the MIDI preset. Note that you can't edit settings using the sound-shaping features or knobs while a shadow preset is active.

DOWN & UP while a preset is activated: Locking and unlocking a MIDI preset

Press these two buttons simultaneously while a MIDI preset is active for approximately three seconds to lock the preset. Locking a preset protects against unintentional overwriting when you accidentally press the Write or Copy buttons. The right decimal point appears in the display to indicate that this preset is locked. Lo appears in the display, alternating with the preset number to indicate the actual locking procedure is underway. Be sure to hold the two buttons down until the number of the preset now longer flashes in the display.

The procedure for unlocking a preset is the same as the aforementioned locking method. ULo appears in the display, indicating that the preset is being unlocked. Once the MIDI preset is unlocked, the right decimal point disappears from the display.

A tip from the designer:

This locking option will serve you well as soon as you start programming the preamp. You can immediately lock MIDI presets to prevent you from selecting them as targets for copy operations by mistake. The right decimal point appears in the display indicating that this memory slot is already taken as soon as you dial in a preset. And when you're using your preamp at live shows, neither friend nor foe can tamper with your sounds, unless of course in the unlikely event that he or she is familiar with the second operating level of your preamp.

DOWN & UP & WRITE in Manual mode: Unit Check mode is activated.

Press this combination of buttons simultaneously for approximately three seconds to set the system to Unit Check mode. You should get a kick out this mode. It steps through the control ranges of every knob on the preamp, letting you hear every change from step 1 to step 21. Step 11 (the twelve o'clock or center position) is the starting and ending position for each knob.

Once this function runs through every knob on the preamp, it moves on to the sound-shaping functions, activating and deactivating them in the sequence in which they are arrayed. This feature serves as an audio system check, and it lets you audition the sounds produced by each step on every control range.

Rear Panel Features

Please unfold and refer to the diagrams of the front and rear panels at the back of the manual and refer to them as you read through the following explanations!

26 MAINS:

Connect a mains cord here.

CAUTION: Make sure you use an intact line cord with an grounded plug! Before you power the preamp up, ensure the voltage value printed beside the mains receptacle is the same as the current of the local power supply or wall outlet.

27 MAINS FUSE BOX:

Contains mains fuse (rear chamber) and a spare fuse (front chamber).

CAUTION: ALWAYS make sure replacement fuses are of the same type and have the same ratings as the original fuse!

28 GROUND LIFT SWITCH

This switch severs the grounding circuit connecting the preamp's internal ground to the wall receptacle's grounding. You can set the switch to GROUND floated when you have connected a signal processor or power amp and you want to prevent the two devices' ground circuits from creating a ground loop that manifests itself in annoying humming.

CAUTION: If you're operating the preamp with a power amp or signal processor that offers no direct connection between the internal ground and the outlet ground, ensure this switch is set to the Ground position. Otherwise you may encounter an irritating humming noise with a frequency of 50/60 Hz.

29 STEREO FREQUENCY CORRECTED LINE OUTPUT

This stereo 1/4" jack serves as the output of the frequency-corrected line filter. It delivers an unbalanced signal and it is equipped with a ground terminal. You can patch the preamp signal routed through this jack to a recorder or a PC's audio card via some type of adapter (depending on the type of inputs on the audio card). Dial in the desired signal level via the Level knob (31).

30 OVERLOAD

This LED illuminates to tell you the Line output is being overloaded. When it lights up, back off the signal level using the Level knob.

31 LEVEL

This knob control the signal level of the frequency-corrected Line output. Use it to adjust the preamp's Line output signal level to match the input gain of the mixing desk's or recorder's input.

This knob lets you adjust levels from +3 dB to some -30 dB for very sensitive inputs.

32 & 33 LINE OUT BALANCED

These are the frequency-corrected (compensated) and balanced right and left channel line outputs. Pin 2 and 3 of the XLR jack carry the signal, pin 1 = N.C. or ground depending on the position of the Ground switch (34).

You can insert the signals routed through these outputs directly into a mixing console or recording gear equipped with balanced inputs. The advantage of a balanced circuit is that this type of connection will not create a ground loop, provided of course it is wired correctly. Dial in the desired signal level for the two balanced line outputs by adjusting the Level knob (31).

A tip from the designer:

The level of the line output is determined by the following factors: the input level (Gain), the Volume knob as it is set in the given operating modes of the preamp, and to a certain extent, the settings of the tone controls, as well as the position of the Master knob.

Those are a lot of variables to be dealing with, so I recommend you first program presets to taste, then dial in the best possible level for any signal processor you may have connected, and finally adjust the output level using the Level knob. Certainly the best way to go about this is to call up the various presets and dial in a setting for each that doesn't overload the output even at higher volume levels. While you're at it, make sure that all of these levels are a reasonable match for the input sensitivity of whatever recording device or mixing console you are using. You can always fine-tune the level for each preset by means of the connected device's input sensitivity or gain knob on.

34 LINE OUT GROUND

This switch assigns pin 1 of the XLR socket to ground (Ground to Pin 1). You'll find this option comes in handy when you want to earth the circuit you have routed to a mixing console or recording device.

35 LEVEL

This button determines the output level of the stereo output jacks. Press the button to set a higher level (up to 10 dB) suitable for driving less sensitive power amps. Do not press if you need a lower level (down to -10 dB) to feed the signal to additional signal processors or extremely sensitive power amp inputs.

36 STEREO OUTPUT RIGHT

This unbalanced 1/4" line out jack carries the preamp's right channel signal. You can patch the signal routed to this jack to a power amp or a signal processor using a shielded cord equipped with 1/4" plugs.

37 STEREO OUTPUT LEFT

This unbalanced 1/4" line out jack carries the preamp's left channel signal. You can patch the signal routed to this jack to a power amp or a signal processor using a shielded cord equipped with 1/4" plugs.

38 FX LOOP RETURN: RIGHT

This is the right channel input for the FX loop. Connect this input to a signal processor's right output/send jack using a shielded cable equipped with 1/4" plugs.

39 FX LOOP RETURN: LEFT

This is the left channel input for the FX loop. Connect this input to a signal processor's left output/send jack using a shielded cable equipped with ¼" plugs.

40 FX LOOP SEND

This is the FX loop's output. Connect this output to the input of a signal processor, or another preamp. ALC automatically adjusts the level of this output to the different operating modes of the preamp. Use a short shielded cord equipped with ¼" plugs to connect the preamp.

41 AUXILIARY INPUT

This is the preamp's ancillary input. The circuit is wired in series with the input located on the front panel. Use it to connect the preamp to a 19" rack setup. The front panel input has priority. In other words, when you insert a plug into the front panel jack (1), the signal routed in via the Aux. Input is cut off.

42 P.C. REMOTE CONTROL

You can connect this D-Sub 9-pin port to a personal computer via the serial RS232 interface (Com port). The factory-included software features the Remote Control Panel; it lets you do just that—control the preamp remotely from your PC.

CAUTION: Connect this port to the serial interface (Com port) of a compatible personal computer running a Windows* operating system only!

NEVER connect the ENGL Custom Footswitch Z-5 or any other device to this port because this could damage the preamp's computer system!

* Windows is a registered trademark of Microsoft Corporation.

Note: If you have a live connection between the preamp and a PC, make absolutely sure you launch the Remote Control Panel on the PC before you switch on the preamp. Otherwise the preamp may activate Software Download mode, which could wreak havoc with the internal software of the preamp's main processor!

43 MIDI OUT

This 5-pin DIN port (diode connector) will only send out MIDI data that the preamp is programmed to handle. MIDI data is filtered by the internal computer system, so to speak. For example, say bank A is assigned MIDI channel 01 and bank B MIDI channel 12. In this case, only MIDI program change commands for these channels are routed out via the MIDI OUT port. The same holds true for MIDI volume controller commands.

44 MIDI THRU

Unlike MIDI OUT, this DIN port will forward all incoming MIDI data to any other connected MIDI device.

45 MIDI IN

This 5-pin DIN port is designed to accept data sent by a MIDI sender (for example, the ENGL MIDI foot controller Z-12) or data sent from or routed through another MIDI device.

Switch no. 46 lets you activate the preamp's power supply if you have an ENGL MIDI foot controller connected to this port.

CAUTION: Before you connect any other MIDI footswitches or MIDI effect devices, always make sure that switch no. 46 is set to the right to avoid damaging any gear you have connected.

46 On-board Selector Switch for the MIDI IN Port

This switch activates a power supply for the ENGL MIDI foot controller. Power is fed to the board via the MIDI circuit. When the switch is set to the left position (ENGL MIDI Footcontroller), the preamp's power supply is routed to pin 1 and pin 2 of the MIDI IN port.

Whenever you use any other MIDI foot board, be sure to set the switch to the right to avoid damaging it. If the foot board you are using is equipped to handle phantom power, consult its operating manual to find out to how it is wired (which pins carry its power supply) and what its voltage and current specifications are.

If the voltage and current specifications and wiring match, you may set the switch to the left to supply this foot board with power over the MIDI cord.

Read and heed: Be aware that any MIDI foot board you intend to supply with power via this port may not draw or consume more than 200 milliamperes of current. You must also find out if the MIDI foot board is able to handle 11 volts of alternating current (AC)! If you are in any doubt, be sure to consult a specialist, meaning an amp technician or electronics engineer who earns a living with a screwdriver!

Preset and MIDI Channel Array

In this section, we'll take a look at the sequence in which you can dial up presets using the UP and DOWN buttons on the face of the preamp or the software Remote Control Panel on a PC.

Note that you can only call up the 128 presets of bank A and B via MIDI commands. The following list points out the sequence of MIDI presets starting with Manual 000.

You can only access and adjust MIDI channels on the actual preamp in MIDI Channel Select mode, but not via the Remote Control Panel.

MIDI channels:

- > DOWN 015, etc.
- > DOWN 016: MIDI channel 16.
- > DOWN on1: OMNI mode, MIDI commands are received on
 all MIDI channels.
 **off: all MIDI channels off, MIDI commands are
 not received by any MIDI channel.**
- > UP 01: MIDI channel 01.
- > UP 02: MIDI channel 02.
- > UP 03, etc.

127 (A), etc.
<- DOWN

128 (A): MIDI preset 128 with the corresponding bank A shadow preset, selectable via UP/DOWN buttons on the preamp, MIDI commands, and via Remote Control Panel on a PC. WRITE and COPY (source & target) are possible.

<- DOWN

CA0-CA9: factory presets Clean 0 to 9, selectable via UP/DOWN buttons on the preamp and Remote Control Panel on a PC only. COPY (as target only).

<- DOWN

Cb0-Cb9: factory presets Crunch 0 to 9, selectable via UP/DOWN buttons on the preamp and Remote Control Panel on a PC only. COPY (as target only).

<- DOWN

LA0-LA9: factory presets Soft Lead 0 to 9, selectable via UP/DOWN buttons on the preamp and Remote Control Panel on a PC only. COPY (as target only).

<- DOWN

Lb0-Lb9: factory presets Heavy Lead 0 to 9, selectable via UP/DOWN buttons on the preamp and Remote Control Panel on a PC only. COPY (as target only).

<- DOWN

-> Manual 000: manual operating mode of the preamp and the default setting <- selectable via MANUAL, UP and DOWN buttons on the preamp and Remote Control Panel on a PC only. COPY (as target only).

-> UP

1 (A): MIDI preset 1 with the corresponding bank A shadow preset, selectable via UP/DOWN buttons on the preamp, MIDI commands, and via Remote Control Panel on a PC. WRITE and COPY (source & target) are possible.

or if bank B is active,
1 (B): MIDI preset 1 with the corresponding bank B shadow preset, selectable via UP/DOWN buttons on the preamp, MIDI commands, and via Remote Control Panel on a PC. WRITE and COPY (source & target) are possible.

-> UP
2 (A) or 2 (B), etc.

Factory Presets

CA0-CA9: CLEAN

CA0: General Purpose Clean

Standard clean sound. Very versatile, it's great for those in-between pickup positions, with plenty of sparkle for laying down clean tracks.

CA1: Rosewood Funk

Dials in righteous skank & spank that turns any guitar with a rosewood fingerboard into a real funk plank.

CA2: Tele Twang

It's all in the name. Use the presence knob of your power amp to spice the sound to taste.

CA3: Mahogany Rush

Adds a cool jazz flavor to guitars with mahogany bodies.

CA4: Mighty Wing

Beefs up the sound of neck position Strat pickups; think "Little Wing" on steroids.

CA5: Swinging Sultans

Plenty of in-between pickup position cluck and pluck. Add a hint of chorus and be Mark Knopfler.

CA6: Direct Out

Maybe some day someone will ask you to replicate a direct-to-desk sound live. When that happens, you will be ready ...

CA7: Country + Western

You don't need to put the cow horns on the Cadillac to get a kick out of this one. The Blues Brothers, for example, would have loved it ...

CA8: Clean Paul

Plug in Les Paul. Select middle position. Welcome to blues bliss. Break out Kleenex. Wipe away tears of joy.

CA9: Texas Flood

Imagine what Stevie Ray would have sounded like over an ENGL amp. Or better yet, play some tough Texas-style stuff and hear for yourself.

Cb0-Cb9: Crunch

Cb0: The Crunch

The ultimate crunch sound, warm with truckloads of harmonics and attitude. This one gives you state-of-the-art class A grind.

Cb1: Humbucker Crunch

If you need to tame over-the-top humbucking pickups to get some slice and sizzle, this where you'll get the bacon.

Cb2: Turn The Page

Anyone for a taste of that other Jimmy?
Turn the page and let Zeppelin fly again.

Cb3: Angus Finest

Fiddle with the presence knob of your power amp, dial in that distinctive bite and sparkle, and you'll find yourself on the Highway To Hell—figuratively speaking of course.

Cb4: Jimi's Favourite

Nothing hazy about this one: Plug in the Seattle superman's trademark guitar and take it to the stratosphere.

Cb5: Blues Crunch

`Nuff said, just plug and play.....

Cb6: West Coast Crunch

Got a jones for a cranked non-master volume US class A combo?
Get your fix right here.

Cb7: Retro Seventies

Shovels full of grit and grind of the kind you expect non-master vintage amps to deliver ... except that you don't need earplugs to enjoy this one.

Cb8: Stevie's Lead

If that Texas stang is your thang, this one's for you.

Cb9: Southern Crunch

Unlike Neil, even a southern man needs this one around ...

LA0-LA9: Soft Lead**LA0: Rush Hour**

Here's a little something for the Canadian purveyor
of progressive rock in you.

LA1: California Vintage Wine

Hopped up class A combo sans master volume.

LA2: LA Saturated Tube

Add some chorus and delay for a trip back in time to the
taste-challenged '80s. Don't forget the parachute pants.

LA3: Fuzz Lead

Want that 1000 lb. mosquito buzz of a vintage fuzz?
Come and get it—aggressive distortion and presence galore.

LA4: Canadian Rock

Here's another north-of-the-border special for you. Use the in-between
pickup position to get that Canadian stadium pop sound. It's only love,
indeed, if this sort of thing yanks your chain.

LA5: Ancient Tube Lead

Turn a non-master British stack up to 11 and stand back. Stand way back ...

LA6: Paranoid

The heavy metal mudslide that started an avalanche back in the early '70s.

LA7: Tokyo Women

That would be Ritchie's fab tone for you. But don't take our word for it, dress up in best black get up and hear for yourself.

LA8: Crazy Diamond

Pile on a healthy helping of echo and reverb to create a sound you can slice. Shine on indeed

LA9: Violin

That lead tone near and dear to every Texas tone ranger's heart. Breathtaking sustain and a refreshing gust of harmonics make it easy sailing all the way to the cliffs of Dover.

Lb0-Lb9: Heavy Lead**Lb0: German Metal**

Bone-crushing Teutonic tone for eurotrash metal made in Germany. Tweak the presence knob of your power amp to elicit that evil tube punch. Not for the faint of heart ...

Lb1: Modern Eddy

Latter day brown sound; just add a pinch of pitch and delay to tap your way into the hearts and minds of your audience.

Lb2: Full Shred

Shred is not dead, it just nodded off. With this one, all pickers who thrive on speed, accuracy and great tone will wake up to some hip hi-gain lead sounds.

Lb3: Classic Lead

Typical retro lead sounds of '70s vintage harking back to the first amps equipped with master knobs.

Lb4: Moore Lead

Gary's notion of tone: Les Paul plus gobs of gain equals endless sustain.

Lb5: Angel's Rhythm

Straight-up, mids-heavy hi-gain rhythm. Great contemporary sound for guitarists who like to stand out in a crowd. Creates a wall of sound Phil Spector would have been proud of.

Lb6: Devil's Lead

The evil twin of preset Lb5. Modern hi-gain lead sound with a bulldog's bite and balls to boot. Packs a mighty punch; great stuff if your band mates won't back off the volume when it comes for you to strut your soloing stuff.

Lb7: Ultra Sandman

In all humility, this one may set a new standard for ultramodern heavy metal riffage. Punchy low midrange, tight bottom end and sparkling treble. Tweak the presence knob and shape to taste. That should do it then

Lb8: The Healer

Searching for a singing Latin rock lead sound? Search no more. Particularly owners of set-neck mahogany-body guitars will appreciate this one. Sustain like there's no tomorrow, notes may actually hang around until the next day.

Lb9: Strat Lead

Plenty of punch to beef up every single coil-equipped guitar. Remarkable dynamic range, much like a hard-working British amp cranked to the hilt. Try an arpeggio or two and revel in the power and definition ...

The Making Of.....

Before we begin exploring the ENGL E 580 Preamp's world of sounds, allow us to share a few comments with you:

1. The preset names are merely signposts, they are there to give you a general idea of what each of these sonic configurations sound like. Our descriptions are simply suggestions, it's up to you and your imagination to take it from there.
2. This E580 tube preamp was not designed to copy other maker's amps. With our focus clearly on the rich heritage of ENGL tube tone tradition, we factored in all the things we cherish about ENGL amps—both new and old. Building on these versatile sounds, our goal was to make the most of state-of-the-art technology to create a powerful tube tool for expressive guitarists who want to go where no other player has gone before.
3. While we were programming the presets for the E580, we auditioned them over an ENGL 100-watt power amp equipped with 6L6GC power tubes, and an ENGL 4x12 vintage cabinet. Note that different gear (tube, amps, speakers and cabinets) may of course elicit different sounds.
4. We used the usual complement of guitars (solid-body as well as hollow-body guitars sporting single coil and humbucking pickups) to create the E580's factory presets.

Finally, we would like to stress that it's all in your fingers and up to your powers of invention. We designed the ENGL E580 MIDI TUBE PREAMP to fuel your creativity. It may be a cliché, but in this case it's true—the only limit is your imagination. This device has the power to take you where you have never gone before. Discover a new realm of sound and perhaps a new approach to music.

Here's hoping you enjoy the trip,

Bernd Aufermann

Step-by-step Illustrated Handling Guide

Explanations

Control features:

Take this to mean all the features used navigate and manage sounds rather than shape them:

Specifically, that means the DOWN, UP, MANUAL and WRITE /COPY buttons as well as diverse combinations thereof.

Some of these functions may also be executed via MIDI and the Remote Control Panel, for example selecting MIDI presets.

Sound-shaping features:

This describes all features that influence the preamp's signal, for example Clean/Lead, Contour, Rec. Out Treble, as well as all knobs such as Gain, Lo Mid, Effect, and so forth.

Handling

<->: press one button or several buttons briefly.

<- : press and hold one button or several buttons simultaneously.

@ : shape sounds via knobs and buttons.

Display

=> : the display shows different data in sequence.

<=>: the display switches back and forth between two statuses.

Functions

described
at page:

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1. Switching the device on.



After you power the preamp up, the ENGL logo cycles through display like a banner. The preamp switches to Manual mode following the system test.



The familiar sound-shaping features handle just like those on any non-programmable device. As you're rotating a knob, you'll see the corresponding steps indicated in the display. For example, here you can see step 11. About a second after you release the knob, you'll see the number of the currently selected preset reappear in the display.

The one exception is when you continue to rotate a knob past the respective limits of the value range, i.e. step 1 and step 21 (step 11 on the Master knob). In this case, the display will continue to read 01 or 21 (11 on the Master knob) until you reactivate this knob or adjust another knob. This serves as a reminder that this knob has arrived at the limits of its control range.

Note:

You can't store settings in Manual mode via Write. If you press WRITE/COPY while the preamp is in Manual mode, the settings you have dialed serve the source and the amp will always copy these to the MIDI preset you have selected as the target.

More good-to-know stuff:

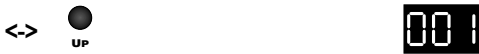
In Manual mode the most recent settings you made are stored automatically when you switch the preamp off. The preamp returns to this status when you switch it on again.

CAUTION:

Before you switch the preamp on, check to make sure the local mains voltage matches the specification indicated on the model designation plate locate at the right of the mains receptacle!

PCs and data circuits can behave unpredictably. To avoid potential malfunctions, we recommend that you do not connect the preamp to a PC before you power it up.

2. Selecting MIDI presets, factory presets and Manual mode.



The preamp activates MIDI preset 1.



The preamp rapidly scrolls through MIDI presets in ascending order.



This activates Manual mode.



This activates factory preset Lb9.



The preamp rapidly scrolls through factory presets in descending order.

Note:

If you hold the UP or DOWN buttons down for more than three seconds, the system automatically scrolls through presets much faster (that would be the Hi Speed Preset Select option).

3. Selecting preset bank A and B.



Press the two buttons simultaneously to activate preset bank B. This switching options also works when you have activated a preset. Here the preamp switches from bank A to bank B in Manual mode. The decimal point at the left appears in the display telling you that bank B is active.



Press the two buttons simultaneously to activate preset bank A. Here the preamp changes from bank B to bank A, MIDI preset 10. The decimal point at the left disappears.

Note:

When you switch banks in Manual mode or while a factory preset is active, the sound will not change. And for very good reason—we didn't make a distinction between banks for Manual mode and the factory presets. When you change banks while a MIDI preset is active, the preamp's features will be configured to match the settings of the selected preset.

Note:

When you press two buttons simultaneously, make sure that you bear down on them at precisely the same time, otherwise the preamp will carry out another command that you don't want.

Examples:

In the first scenario depicted above, the preamp will switch to MIDI preset 1 if you press UP before you press the MANUAL button.

Into the second example, the preamp switches to Manual mode if you hit the MANUAL button before you press DOWN.

Supplementary information:

You can switch back and forth between bank A and bank B in both Manual mode and for factory presets even though no distinction between banks is made for these memory slots. The only distinguishing feature between these "nonexistent" banks is the left decimal point that appears in the display.

Although at first glance this bank switching option would appear to be pointless, it does have its advantages:

1. You can select the desired bank in Manual mode before you select the MIDI channel.
2. You can predetermine the bank before you go from Manual mode to the MIDI presets by pressing the UP button. Besides, the bank selection process (press the two MANUAL & UP or DOWN buttons, depending on the desired bank) is more forgiving in Manual mode. This means that you can accidentally press the MANUAL button just before you press the UP or DOWN buttons without inadvertently activating another function.

4. Saving settings to a MIDI preset.

For purposes of this example, the preamp is in Manual mode.



This activates MIDI preset 1, bank A.



Adjust the preamp's sound-shaping features to taste, for example, select the Heavy Lead channel, dial in step 14 on the Gain knob and so forth.

The LEDs for every knob and sound-shaping button that you adjusted will flash (MSF is active) indicating that a Write operation will be carried out as soon as you press the Write button.



Hold the button down until the display stops flashing and preset 1 lights up continuously. Whatever settings you dialed in are now stored in MIDI preset 1.

Note:

The Write operation can not be executed on a locked preset!

Note:

The original settings of this MIDI preset are automatically loaded to shadow preset 1. You can load them back to the MIDI preset at any time.

Supplementary information:

To facilitate handling, we took a "shortcut" for the WRITE and COPY data storage operations. When you program or copy a sound by pressing the "WRITE/COPY" button, the display changes back and forth from the "Pro" (during a WRITE operation) or "Co." (in the case of a COPY operation) to the MIDI preset number twice. During this phase, you can cancel the programming operation at any time by simply releasing the button. The programming operation is launched immediately after the second time the preset number appears in the display, and it can't be cancelled or revoked. The operation is concluded as soon as the preset number appears statically in the display, meaning that it no longer flashes. Note that this phase takes a bit longer when you are storing MIDI channels and MIDI volume settings, as well as when you are locking and unlocking presets. This can't be helped - it is due to technical reasons and we do apologize for any inconvenience.

5. Copying settings from one MIDI preset to another MIDI preset.

For purposes of this example, the preamp is in Manual mode.



Select the desired preset as the source for the Copy operation. In this example it is preset 15, bank A.

Read and heed:

If you want to copy MIDI preset 15 as is, don't change any of the settings after you have dialed this preset up. If you do change settings, the preamp will write these changes to this preset.



Press the button briefly. The Copy option is active for about 30 seconds. The system will quit Copy mode automatically if you don't select a new preset during this time. The center decimal point in the display appears to indicate Copy has been activated.



Select MIDI preset 10 as your target preset immediately after you activate Copy.



Hold the button down until the display stops flashing and preset 10 lights up continuously. The settings of MIDI preset 15 were dumped to MIDI preset 10.

Note:

The original settings of this MIDI preset are automatically dumped to shadow preset 10. You can load them back to the MIDI preset at any time.

Good-to-know stuff:

You can copy MIDI presets from one bank to another. To this end, you must change to the other bank after you press the Copy button. You'll find an explanation of how to go about changing banks in section 3 above.

Heads up:

You can't use a locked preset as the target of a copy operation!

Note:

You can press the MANUAL button at any time when you want to cancel the operation and quit Copy mode.

6. Copying settings from a factory preset to a MIDI preset.

For purposes of this example, the preamp is in Manual mode.



Select the desired factory preset as the source for the Copy operation. In this example it is factory preset CA9.

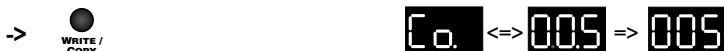
You can change the sound-shaping settings of a factory preset before you copy it. The preamp will always copy the last settings you dialed in for a factory preset before you pressed the Copy button.



Press the button briefly. The Copy option is active for about 30 seconds. The system will quit Copy mode automatically if you don't select a new preset during this time. The center decimal point in the display appears to indicate Copy has been activated.



Select MIDI preset 5, bank A as your target preset immediately after you activate Copy.



Hold the button down until the display stops flashing and preset 5 lights up continuously. The settings of factory preset CA9 were dumped to MIDI preset 5.

Note:

The original settings of this MIDI preset are automatically dumped to shadow preset 5. You can load them back to the MIDI preset at any time.

Heads Up:

You can't use a locked preset as the target of a copy operation!

Reminder:

You can press the MANUAL button at any time when you want to cancel the operation and quit Copy mode.

7. Copying manual settings to a MIDI preset.

For purposes of this example, the preamp is set to MIDI preset 29, bank B.



This activates the Manual settings as your source.



After you have selected Manual, you can change the any sound-shaping settings as you see fit.

In this example, the Gain knob is set to step 17 and Hi Gain is activated.



Press the button briefly. The Copy option is active for about 30 seconds. The system will quit Copy mode automatically if you don't select a new preset during this time.

The center decimal point in the display appears to indicate Copy has been activated.



Select MIDI preset 11, bank B as your target preset immediately after you activate Copy.



Hold the button down until the display stops flashing and preset 11 lights up continuously. The settings of Manual were dumped to MIDI preset 11.

Note:

The original settings of this MIDI preset are automatically dumped to shadow preset 11. You can load them back to the MIDI preset at any time.

Heads Up:

You can't use a locked preset as the target of a copy operation!

Reminder:

You can press the MANUAL button at any time when you want to cancel the operation and quit Copy mode.

8. Locking a MIDI preset to protect it against inadvertent overwriting.

For purposes of this example, the preamp is set to MIDI preset 2, bank A.



Press the two buttons simultaneously and hold them down until the display stops flashing and preset 2 lights up continuously.

The decimal point on the right indicates the preset is locked.

Note:

You can neither store nor copy settings to a locked preset. What's more, you can't swap the settings of a shadow preset and a MIDI preset.

Conversely, you can use a locked MIDI preset as the source for a Copy operation.

9. Unlocking a MIDI preset.

For purposes of this example, the preamp is set to MIDI preset 2, bank A



Press the two buttons simultaneously and hold them down until the display stops flashing and preset 2 lights up continuously.

The decimal point on the right disappears, indicating the preset is unlocked.

Now you can store or copy settings to this preset.

10. Selecting a shadow preset.

For purposes of this example, the preamp is set to MIDI preset 11, bank A.



Press the two buttons simultaneously and hold them down until the all three decimal points start flashing. This indicates you have switched the preamp to shadow preset 11, bank A.

After a period of some five seconds, the preamp automatically changes to the MIDI preset.

You can press the MANUAL button to quit the shadow preset manually.



In the shadow presets, all sound-shaping features are locked. That means you can't edit them.

Note that as you play the sound you are hearing is shaped by the settings of the shadow preset. If any of the LEDs surrounding a knob flashes, this tells you that the knob has different settings in the MIDI preset and shadow preset. If the setting of a knob in a MIDI and shadow preset are identical, the LEDs surrounding that knob light up but they do not flash.

Note:

In the shadow presets, the Master knob is also locked. For this reason, we recommend that you set the Master knob to a low setting before you change to a shadow preset. If you have dialed in a higher setting, roll it back.

This prevents you from unwittingly exposing your ears to extremely high levels, for example, when a shadow preset's volume is set to a much higher level than the MIDI preset's volume.

11. Swapping the settings of a shadow preset with those of a MIDI preset.

For purposes of this example, the preamp is set to MIDI preset 11, bank A.



Press the two buttons simultaneously and hold them down until the all three decimal points start flashing. This indicates you have switched the preamp to shadow preset 11, bank A.

Now we'll dump the settings of the shadow preset back to MIDI preset 11.



In the shadow presets, all sound-shaping features are locked. That means you can't edit them.

Note:

Note that as you play the sound you are hearing is shaped by the settings of the shadow preset. If any of the LEDs surrounding a knob flashes, this tells you that the knob has different settings in the MIDI preset and shadow preset (courtesy of the MSF). If the setting of a knob in a MIDI and shadow preset are identical, the LEDs surrounding that knob are illuminated but they do not flash.



Hold the button down until the display stops flashing and MIDI preset 11 lights up continuously.

Now the settings of the shadow preset have been dumped to the MIDI preset and vice versa, the settings of the MIDI preset have been stored to the shadow preset. This option lets you restore overwritten MIDI presets.

12. Selecting MIDI channels.

Activate this selection routine while the preamp is in Manual mode.

Note:

You must select the bank to which you want to assign a MIDI channel before you activate MIDI Channel Select mode.



Press the two buttons simultaneously. The preamp switches to MIDI Channel Select mode. After about two 2 seconds the display will indicate the assigned MIDI channel. In this example it is channel 01.



Press the DOWN button twice. Normally you will scroll to the next lower MIDI channel number every time you press the button, but in this case the display will scroll from channel 01 to Off and then to OMNI mode.



Now you can store the desired MIDI channel, which in this example is actually all of them or OMNI. Press and hold the WRITE button until the display stops flashing and Manual is indicated statically.

Otherwise, the programming procedure will be canceled.

Note:

To distinguish between the presets of the two banks when you want to access both banks, these banks must be assigned to different MIDI channels. This means that you can't assign the same MIDI channel to both banks. If you select a MIDI channel that has already been assigned to the other bank, the display will let you know that this is the case—this channel number will begin flashing.

If you set a bank to OMNI, you can't assign a channel to the other bank. Your only option is to set MIDI channel reception to OFF.

Note:

You can activate MIDI Channel Select mode to simply check the given MIDI channel assignment and press the MANUAL button to quit this mode without storing a new MIDI channel.

The system quits this routine automatically after about 12 seconds.

13. MIDI Volume Setup.

Activate this selection routine while the preamp is in Manual mode.



Press the two buttons simultaneously. The preamp switches to MIDI Channel Select mode. After about two 2 seconds the display will indicate the current status of the MIDI volume remote control option. In this example it is Off.



Use the UP button to enable remote MIDI volume control so you can control the preamp's Master volume via an external MIDI volume pedal.



Now store the desired MIDI volume option, On or Off. In this example, we'll go for On. Press and hold the WRITE button until the display stops flashing and 000 appears in it indicating the amp is back in Manual mode. Otherwise, this programming procedure will be canceled.

Note:

You can activate MIDI Volume Setup mode to check the status and press the MANUAL button to quit this mode without storing a new setting. The system quits this routine automatically after about 12 seconds.

14. Launching a preamp self-test.

Activate this selection routine while the preamp is in Manual mode.



Press and hold all three buttons simultaneously until the preamp switches to Unit Check mode.



On its own, the system will set all knobs to step 11 or 12 o'clock position. It then sweeps through the Gain control range automatically from step 1 to step 21. Once it arrives at step 21, the system resets Gain to step 11. The preamp goes through the same routine in turn for all knobs.



Once all knobs are reset to the center (Step 11) or 12 o'clock position, the system activates and deactivates all sound-shaping features in the sequence in which they are ordered on the front panel.

Note:

In this operating mode, the system dials in settings without human intervention. For this reason, we recommend that you set a connected power amp to a very low volume to prevent levels from getting out of hand.

Supplementary information:

You can select a specific operating mode - say, Heavy Lead (sound-shaping buttons 12 and 13 activated) - in order to run an automatic check of its controls by selecting the desired operating mode before starting the UNC function. Note that once this check routine has run through all knobs, all sound-shaping functions are deactivated before the routine begins checking the sound-shaping buttons. During the UNC routine, all sound-shaping functions (that means all knobs and buttons) are disabled.

PC Software Remote Control Panel (RCP) Features

The preamp comes with software featuring a handy little utility we call the Remote Control Panel (RCP). As its name would indicate, it lets you control the features of the preamp remotely via a compatible personal computer. You'll need Microsoft Windows* 95/98, NT or a higher operating system version to run this software. Beyond that, your computer must have a serial port available (a Com port or RS 232 interface).

Though we put our software through the paces on a number of different computers and it ran flawlessly on each, we can't guarantee that this will be the case with every brand and configuration of computer on the market.

Installation

Insert the included 3 1/2" diskette into your computer's 3 1/2" disk drive. Launch Windows Explorer* and create a directory named "ENGL" or something similar on your hard disk (that is disk drive C).

Copy the "Remote.exe" file from the diskette into this directory on the hard disk. Launch the software via a double-click onto the file icon in Explorer or create a link to the EXE file, drag or copy it onto the desktop, and launch it from there.

Read and heed: Be sure to bear the following rules in mind when you're controlling the preamp remotely via PC:

1. Switch the preamp off before you connect it to the PC!
2. Once you've connected the PC to the preamp's D-Sub 9 port—it's labeled "P.C. Remote Control"—be sure to launch the PC Remote Control software before you switch the preamp on. Otherwise the preamp's main microcontroller will activate Software Download mode. That would be bad because it could damage or even delete this chip's software.
3. Use the enclosed D-Sub 9 cord on which connectors are wired the same as the preamp port, i.e. the pin assignments are a perfect match.

Note: Many of the features and functions of the Remote Control Panel are identical to those on the preamp, so we won't bore you with detailed descriptions. To keep a long story as short as possible, we'll refer to the Remote Control Panel by its acronym RCP in the following.

The buttons labeled Preamp Defeat, Clean Lead, Gain Lo Hi, Bottom, Contour, Bright, Clean Ultra Bright, Modern Classic, Recording Out Bass and Recording Out Treble are the virtual versions of the sound-shaping buttons of the same name on the preamp. The status of these features is indicated by a red LED located above every button.

A mouse click onto the buttons activates or deactivates its given function.

The faders Gain, Bass, Lo Mid, Hi Mid, Treble, Effect, Volume and Master are the virtual versions of the sound-shaping knobs of the same name on the preamp.

* Microsoft Windows is a registered trademark of Microsoft Corporation.

The current setting is indicated above the given fader in steps. You can drag the fader to the desired value via mouse. Alternatively, you can click the button with the little arrow on it up or down to adjust the value step-by-step in the given direction.

Down, Up, Manual and Write/Copy buttons are the virtual versions of the buttons of the same name on the preamp, except that here in the virtual world the various multiple button combinations fall by the wayside.

Transmit

When you click this button, all settings you edited on the RCP are sent to the preamp. After this command is executed, the settings of the RCP and the preamp are identical.

Receive

When you click this button, all settings of all features on the preamp are sent to the RCP. After this command is executed, the settings of the RCP and the preamp are identical.

Bank

The Bank button changes banks on the preamp. The selected bank (A or B) is indicated in the display of the RCP behind the preset number.

Shadow

The Shadow button changes from a MIDI preset to a shadow preset. The shadow preset's status is indicated in the display of the RCP. If you switch to the Shadow preset via this feature on RCP, the preamp will not switch back to the MIDI preset automatically. You must quit the Shadow preset by pressing this button again.

Amp Lock, Unlock

This control feature lets you lock and unlock all knobs, sound-shaping features, control features and the MIDI IN on the preamp. When you set the preamp to Amp Lock, it can only be controlled via the RCP.

Realtime Lock, Unlock

This function determines whether changes to the faders and sound-shaping buttons on the RCP are sent to the preamp immediately after you make them. When you opt for Realtime Lock, you can edit settings to your heart's content on the RCP and transmit them all at once to the preamp. Realtime Unlock, on the other hand, sends every adjustment you make to a fader or sound-shaping button to the preamp right away. Well, not quite right away, because there is a short delay during data transfer for technical reasons.

The Menu Bar of the Remote Control Panel:

"File menu", Open

The Open option does just that, it opens files with the extension ENT to access their settings.

The faders and other sound-shaping features on the RCP are set to the given values after you open a file. You can click Transmit to send these settings to the preamp.

"File menu", Save

Save stores what we call "sound settings" (that term covers all settings and statuses that shape the sound of the preamp) on the RCP in a file with the extension "ENT".

You have to name each file before you can store it on hard disk or another storage medium.

A tip from the designer:

This option of storing "sound settings" elsewhere isn't just a frill, it actually comes in handy out there in the real world. Here's a case in point: Once you have programmed your sounds to MIDI presets, a reasonable proposition would be to create a backup of these presets on hard disk or CD.

You can use the Receive or Up and Down buttons to send the settings of the MIDI presets from the preamp to the RCP, and then store the contents of every preset under a unique name or the preset number (for example, preset1A.ENT). If you take the time to do that, you can safeguard your sounds against disaster and doom. For example, in the unlikely event that the onboard flash memory chip crashes, you can restore your original settings by loading them back to the preamp once a new flash memory chip has been installed. Here's another potential application: You could send settings in a "sound setting" file over the Internet to another guitarist who is also the proud owner of this preamp. Or you could dump your sound files to floppy disk and carry them with you into the sound studio for a recording gig (provided of course that the studio owner has the same impeccable taste as yours and an ENGL E580 preamp at hand).

"File menu", Quit

This command closes the Remote Control Panel and quits the applications. Remote control panel is ended and closed. The Com port is released so that it can be put to some other use.

"Options" menu, RS 232 Com Ports

A click on this menu item opens a window called Preferences that lets you view the currently selected Com port. You can select the desired Com port here. The default is Com 1. If you select another Com port, you must confirm your selection by clicking OK.

Click Cancel to close the window without changing the setting.

A tip from the designer:

You may have to configure the Com port depending on if and how your PC is using Com port 1. Some systems use Com port 1 for the mouse or an analog modem. If that is the case with your rig, you'll have to use Com port 2 to connect your PC to the preamp and select this Com port on the Panel. Remote control via RCP will only work if you have selected the right Com port.

"Options" menu, Serial Number

This menu item lets you check out the serial number of the preamp.

Although perhaps not the most thrilling feature you'll ever encounter, it will come in handy if your preamp's flash memory chip develops a defect. In that case, the service technician needs the serial number to make sure the main processor adjusts the opto-controller ICs correctly. The information it needs to do this is stored in each flash component of every preamp. The serial number is quite significant for another reason. More on this later.

STATUS DISPLAY in the Remote Control Panel

This alphanumeric display shows the various currently active statuses of the preamp as well as some functions of the Panel.

Preset number: Preset 001-128

Manual: Manual 000

Factory preset: Factory CA 0-9, Factory CB 0-9, Factory LA 0-9, Factory LB 0-9

Shadow preset: Shadow 001-128

Bank A and B: "A" or "B" follows the preset number

MIDI preset locked: "L" follows the letter A or B, MIDI preset unlocked: "U"

The display also indicates when you select different control features or if you change settings of Faders (e.g. Gain 15).

Glossary

AFC (Auto Frequency Correction):

This is a special filter circuit designed to provide automatic frequency compensation. The Gain knob and different sound-shaping features are controlled by a sophisticated matrix to adjust frequencies so that they best match the various settings.

ALC (Auto Level Correction):

This feature adjusts the levels of the effect send jack to match the different levels generated by the preamp's various operating modes without human intervention. In other words, the circuit sets the best possible level for the send jack without you having to tweak it.

Display:

There are three seven-segment displays on the preamp, each equipped with one decimal point. The RCP features an alphanumeric display that is also able to show all letters of the alphabet.

Rotary encoders:

In contrast to a regular potentiometer, this breed of knob can be rotated 360°—i.e. it has no limit of travel. Note that as you rotate these knobs you will feel slight resistance as they travel past the various sensors. This is entirely normal and no cause for concern.

On a programmable preamp, this type of component has a considerable advantage over a conventional potentiometer: When you switch to another MIDI preset, you're activating different settings. A rotary encoder is always set to the currently valid value in real time. This quality makes it much easier for you to edit knobs on the fly, in other words, change settings in a hurry.

Factory-Preset:

These are various factory settings that we programmed right into the microcontroller. You can't edit these and store these changes directly.

You can, however, fiddle with the settings of a factory preset and then press the Copy button to dump it to a MIDI preset. Or you can first copy the unedited factory preset to a MIDI preset, tweak it to taste, and then store it with Write.

Flash-Memory:

All data for the MIDI presets reside in a state-of-the-art serial flash memory chip. This technology has the advantage that it stores information without requiring a power source, which of course means it doesn't need a battery to do its thing. The data required for the optoelectronic components' control algorithm as well as the serial number of the preamp are also stored in the flash memory.

Hi Speed Preset Select mode:

Ultra-fast scrolling option for selecting presets via UP or DOWN when you're in a hurry.

Manual:

More a status than an operating mode, Manual activates after you switch the preamp on. 000 appears in the display telling you that the preamp is in Manual mode.

In Manual mode, the preamp responds just like any conventional preamp that isn't ready for MIDI.

You can't store settings in Manual mode. However, any settings that you dial in while the preamp is in Manual mode can serve as a source, and you can copy this configuration to a target MIDI preset.

MSF is disabled in Manual mode.

MIDI Channel Select Mode:

You can activate this routine to select MIDI channels Poly 01 to 16, OMNI or MIDI Off for MIDI preset banks A and B.

MIDI-Volume:

This feature lets you control the preamp's Master knob via an external MIDI volume pedal. The pedal must be connected to a suitable MIDI foot board (for example, the ENGL Z-12-EXP) and it must be able to send MIDI data via MIDI controller number 7. You must enable this option in MIDI Volume setup before you can access and control the preamp's Master volume.

MIDI Volume Setup Mode:

You can activate this routine to switch the MIDI volume controller on (external MIDI volume control is enabled) or off (external MIDI volume control is disabled).

Microcontroller:

A semiconductor chip by any other name. In this preamp, three microcontrollers slave away for your tweaking pleasure, carrying out a mind-boggling amount of arithmetic operations. Powered by custom-designed, extremely complicated software, these chips control the different functions of the preamp and constantly monitor the settings of the various components that are responsible for shaping tube-driven signals.

Multitasking:

Several software-driven processes run interleaved to ensure system commands are executed at high-speed, which is a really complicated way of saying that multitasking is doing two or more things at once. The reason why this preamp's engine room is powered by multitasking-enabled processors is because its sophisticated circuitry is so demanding. It takes considerable system performance to satisfy the requirements of so many signal control and voicing options.

MSF (Memory Status Feature):

As its name would indicate, this feature is a status indicator built into the segmental LEDs surrounding the knobs as well as the LEDs that indicate the status of the sound-shaping buttons. The LEDs indicate the setting of the knob or an enabled sound-shaping button by lighting up continuously. A flashing LED indicates the setting of a knob or a sound-shaping button has been edited. When a knob or button is adjusted on a MIDI or factory preset, the incremental steps on the LED always indicate the value of the new setting.

When you want to find out what the initial setting of a knob was, rotate it until the LED or LEDs light up continuously. The same holds true for the sound-shaping buttons: their LEDs must either illuminate or remain extinguished, depending on the initial status of the given function.

For a shadow preset, the MSF indicates that a knob's setting differs from that of its counterpart in the MIDI preset. The given LED will flash.

MSF doesn't work in Manual mode and no distinction is made between flashing and continuous illuminated LED for the Master knob simply because the settings of this knob can't be stored.

OMNI-Mode:

OMNI means "all", that is to say the preamp responds to every program change command sent over the MIDI IN port, and changes over to the desired preset. You can only set one bank to OMNI. If you do, you must go into the setup menu and disable MIDI reception for the other bank (MIDI Channel Select mode: ch off).

POLY channel:

Banks A and B of the preamp can be set to any of these poly channels, but you can't set both banks to the same channel at the same time.

Let's look at a typical switching scenario: Say bank A is assigned to MIDI channel 1 and bank B to MIDI channel 3. When program change 110 is sent over channel 1, this command activates MIDI preset 110, bank A on the preamp. The same program change sent over channel 3 activates MIDI preset 110, bank B on the preamp. The preamp will resolutely ignore a program change command sent on channel 5.

Why use so many different MIDI channels? Because it comes in handy when you've connected several MIDI devices in a MIDI loop and you want to address and switch these MIDI devices individually.

Preset Back Skip:

In Manual mode, this feature jumps back to the most recently selected preset.

Remote Control Panel (RCP):

This is a software interface that lets you control key functions and features of the preamp remotely. It runs on Windows* PC operating systems. Before you can use the Panel, you must connect the preamp to a serial interface of the PC (Com port) and of course launch the software on your PC.

* Microsoft Windows is a registered trademark of Microsoft Corporation.

Shadow-Preset:

Every MIDI preset of banks A and B has a shadow preset of its own.

Every time you program a MIDI preset via Write or Copy, the system automatically loads that MIDI preset's original setting to its shadow preset, deleting the configuration that was previously stored in the shadow preset.

You can call up the shadow preset by pressing MANUAL & WRITE simultaneously and then swap the contents of shadow preset with those of the MIDI preset by pressing WRITE. This writes data back to the MIDI preset, restoring its old setting.

Segmental LED:

This term describes the 11 LEDs that are arrayed around every knob. In every operating mode, these LEDs indicate the current setting of the knob. The MSF (Memory Status Feature) causes the LED flash, indicating that a setting on a MIDI or factory preset has been changed. This also tells you that a Write operation will be carried out when you press the WRITE/COPY button and, when the LED stops flashing, that the edited preset is stored. For shadow presets, LEDs will flash to indicate that the settings of a MIDI preset and its shadow preset are not identical.

Troubleshooting

The ENGL logo doesn't run through the display after you switch the preamp on.

- Is the preamp connected to the mains power supply?
- Is the preamp connected to the Com port of a PC and has the Remote Control Software been launched? Try switching the preamp off, starting the software on the PC and switching the preamp on again.
- Is the preamp's mains fuse intact?

The preamp fails to respond when you change settings.

- Powerful static charges, strong radio signals or mains voltage spikes can affect the preamp, setting it to an undefined status. The three onboard microcontrollers operate in handshake mode, which is particularly susceptible to outside influences. For example, powerful external interference could interrupt the program routine of one of the three processors, throwing the entire system out of whack. In that case, you have but one choice—a cold start. Simply switch the preamp off and on again to reset it.

The display of the preamp reads hot.

- That tells you the internal operating temperature of the preamp climbed to over 50°C. This means that the optoelectronic components may no longer function absolutely flawlessly. You may hear this because it can have a slight but perceptible effect on the preamp's tone. Check if all the ventilation slots on the side and rear panels of the preamp are free from obstruction and that they allow for sufficient air circulation.

The preamp doesn't respond to your attempts to switch it via MIDI foot board.

- Is the MIDI foot board connected to MIDI IN jack 45?
- Is the MIDI cord you are using defective?
- Is one of the two banks of the preamp set to the MIDI channel on which the MIDI foot board is sending program change commands? You could set one bank to OMNI reception to check if the preamp is receiving data.

The preamp doesn't respond when you switch it via the Remote Control Panel on the PC.

- Is the interface cord you are using defective.
- Are the interface cord connecting the preamp and the PC wired so that it matches the two ports (perhaps you're using the wrong cord).
- Did you power the preamp up before you launched the remote control software on? Switch the preamp off and on again.
- Did you configure the right Com port on the RCP software. Check if the entry in the "Options" menu is the same as the PC Com port that you are using. If not, select the right port.

A window appears on the RCP with the message Can not open Com Port.

- > Is the preamp switched on?
- > Is the preamp connected to the PC via a proper cord?
- > Did you configure the right Com port?
- > Is the Com port being used by some other device (for example, a mouse or modem)?

No output signal.

- > Are all cords connected properly and are they functional?
- > Unplug any effect devices you may have connected and see if the preamp works fine without these peripheral devices.
- > Is the connected power amp working properly?
- > Is the Master or Volume knob set to step 1? Both knobs should be set to a value higher than step 1, otherwise the signal won't be sent to the preamp's outs.
- > You may be looking at a faulty tube or another defect. In this case, be sure to take the preamp to a qualified service center.

Handling and Care

- Keep the preamp safe from mechanical knocks and shocks (those tubes are fragile!).
- Let the preamp cool down before you transport it (10 minutes or so should do).
- Tubes will take some 20 seconds to warm up after you switch the power on.
- Avoid storing the preamp in damp or dusty rooms, they are hard on jacks, switches and rotary encoders.
- Make sure air can circulate at the right side and at the rear panel of the preamp to allow for adequate cooling.
- Replace tubes with select **ENGL** replacement tubes only (special selection criteria) to avoid microphonics, undesirable noise and feedback.

Technical Data

Input sensitivity

INPUT: -20 dB, nominal, max. 0 dB

EFFECT RETURN: -20 dB nominal, max 0 dB

Output level

SEND, level range: from -20 dB to -10 dB

LINE OUT

Level Lo: from 20 dB to max. -10 dB;

Level Hi: from 0 dB to max. 20 dB;

FREQ.COR.LINE OUT: variable from -35 dB to +3 dB;

Power consumption: 0,23A max.

Fuses:

external

at 230V mains voltage: 315 mA T

at 120V mains voltage: 630 mA T

internal

at 230V mains voltage: 400 mA T

at 120V mains voltage: 800 mA T

Important note: Replace with same type and rating only!

MIDI reception:

MIDI program change 0 - 127;

MIDI channel 1 - 16

MIDI controller 7 (main volume),

0-127 on 11 master steps interpolated;

Processors

Main- μ C: P89C51RD2 with internal 64K flash;

Slave- μ C: 2 x AT89C2051 with internal 2 k flash;

Tubes

V1: ECC83 F.Q., input tube,

V2, V3, V4: ECC83 selected;

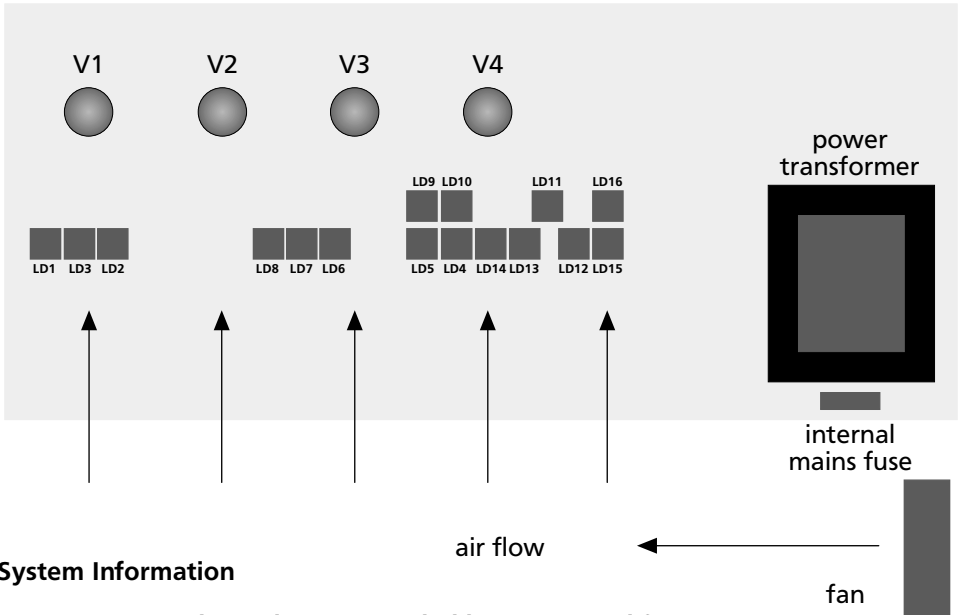
consult Tube Map
to view tube array

Fan: DC12V - 1,4W - 60 mm diameter;

Dimensions: 19" rack, 2 rack spaces, 340 mm overall depth,
approximately 300 mm chassis depth;

Weight: approximately 8 kg

Tube and Optocoupler Array on the Main Board inside the Device



System Information

Temperature and ventilation provided by an internal fan:

A fan is installed in the preamp that runs at a low level, providing continuous ventilation for the interior of the device while it is in operation. The preamp can't do without this cooling system because the tubes, power transformer and voltage regulators constantly generate and radiate heat.

If the internal temperature rises above approximately 40°C, the fan automatically switches to a higher stage. If the internal temperature increases further in spite of this measure and it exceeds approximately 50°C, hot will appear in the display indicating that the preamp is running hot. It will still work, but at this temperature the optoelectronic components can no longer be controlled with absolute precision, which can have a slight but audible effect on the preamp's tone. For this reason, it is essential that the vents on the right and rear panels of the preamp remain unobstructed when you mount it into a 19" rack. In any case, make sure that air can circulate freely around the preamp.

Optocouplers:

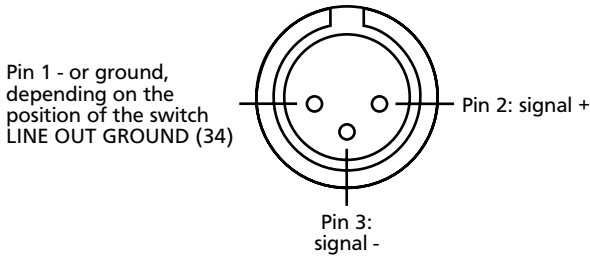
We poke and probe the optoelectronic components thoroughly before we install them in amps. In fact, at ENGL they are subjected to rigorous testing and selection routines developed specifically for this purpose.

In the unlikely event that one of these optoelectronic components develops some kind of defect, your service center needs to know exactly which numbers are printed on that component. This ensures that the microcontroller has the information it needs to adjust their assigned functions to the required values.

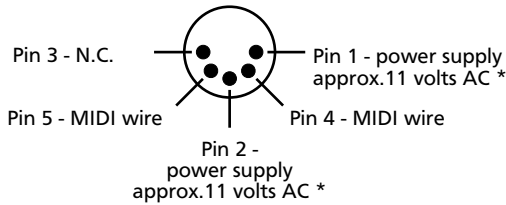
Much like tubes, optoelectronic components are inserted into special sockets on the board. Should it become necessary, these can be replaced without soldering or removing the main board. The individual components are labeled LD1 to LD16, providing the information service technicians needs to carry out service routines should they ever become necessary.

Pin Assignments

LINE OUT BALANCED (32) & (33), XLR male connector

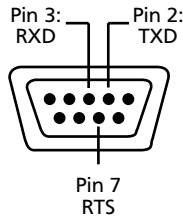


MIDI IN (45), DIN connector



* AC voltage is routed to pin 1 and 2 only when button 46 is set to ENGL MIDI Footcontroller.

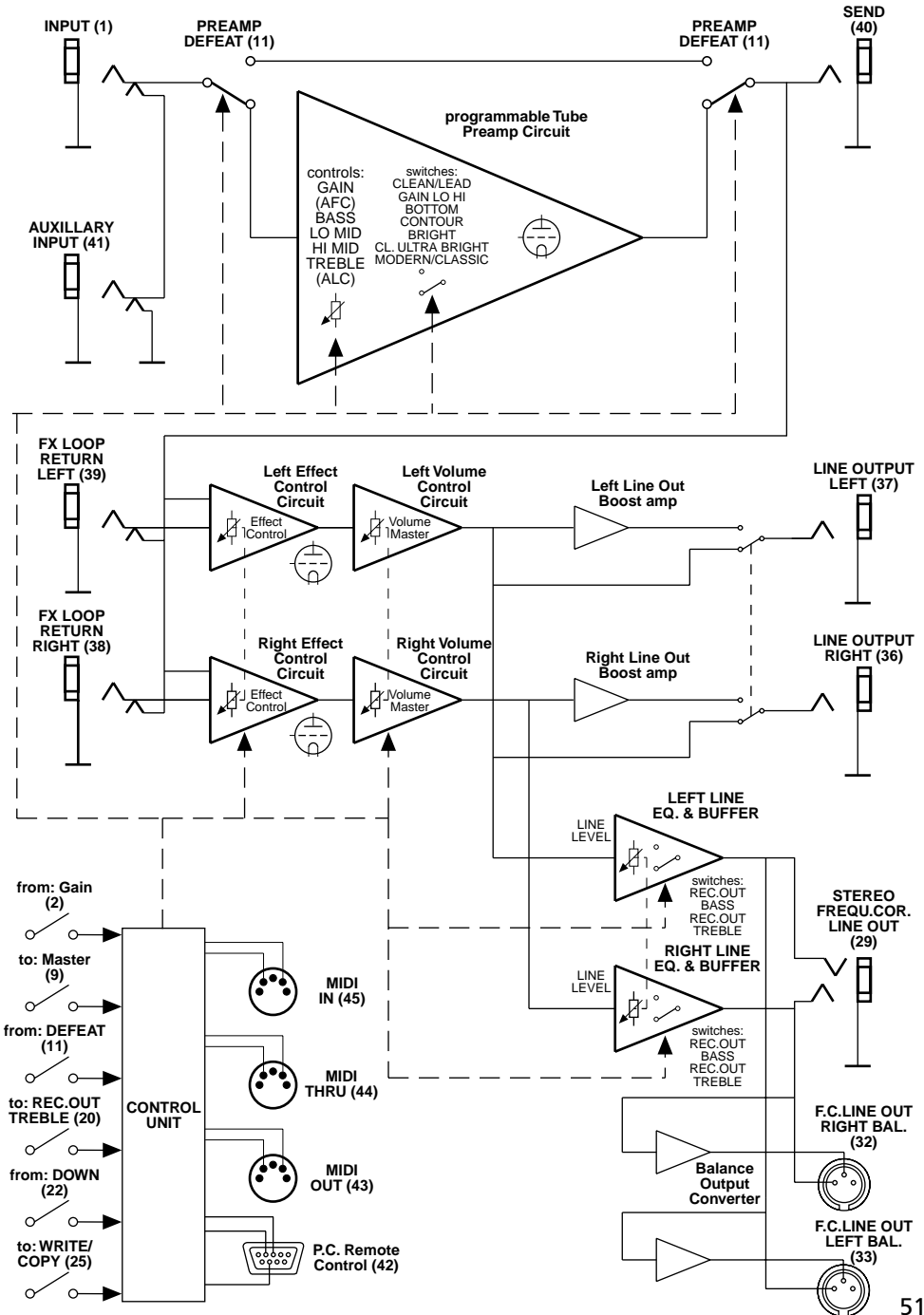
P.C. REMOTE CONTROL, D-Sub 9 connector



Note:

Pin 7 is labeled "RTS". It is used to set the main microcontroller to ISP (in-system programming) mode for a software download. The μ C runs an autopolling routing immediately after the unit is powered up. For this reason, the preamp may only be switched on after the Remote Control Panel has been launched on the PC. This ensures that the correct logic level is sent to RTS pin 7. Special software is required for a software update. More on this in the section on updating.

Block Diagram



Quick reference on Control Features:

In the following, when you see a term in capital letters, that means we're referring to a button, i.e. MANUAL means the Manual button, and so forth.

| | |
|---|---|
| Selecting presets | press UP once to go to the next higher preset, press DOWN once to go to the next lower preset, press and hold UP or DOWN to scroll swiftly through presets without switching the preamp to each preset as you go; |
| Changing banks | press DOWN in Manual mode to access factory presets |
| Selecting shadow presets | press MANUAL & UP simultaneously for bank B press MANUAL and DOWN simultaneously for bank A press MANUAL & WRITE simultaneously while a MIDI preset is active for approximately three seconds |
| Locking presets | press and hold UP & DOWN simultaneously until the preset number no longer flashes |
| Unlocking presets | press and hold UP & DOWN simultaneously until the preset number no longer flashes |
| Activating Manual | press MANUAL briefly |
| Preset back skip | press and hold MANUAL until the display skips back |
| Saving settings | after you edit a MIDI preset, press and hold WRITE/COPY until the preset number no longer flashes in the display |
| Copying from: MIDI preset to MIDI preset | don't edit settings, press COPY, select target preset via UP or DOWN, press and hold COPY until the preset number no longer flashes in the display |
| Factory preset to MIDI preset | press COPY, select target preset via UP or DOWN, press and hold COPY until the preset number no longer flashes in the display |
| Manual to MIDI preset | press COPY, select target preset via UP or DOWN, press and hold COPY until the preset number no longer flashes in the display |
| Setting MIDI channels | select the desired Bank A or B, press MANUAL & WRITE/COPY simultaneously while preamp is in Manual mode, press UP or DOWN to select the desired MIDI channel, store via WRITE/COPY and hold the button down until Manual 000 reappears in the display |
| Enabling/disabling MIDI volume pedal | Press UP & DOWN simultaneously while preamp is in Manual mode, select On via UP or DOWN via Off, store via WRITE/COPY and hold the button down until Manual 000 reappears in the display |
| Preamp check | Press and hold UP & DOWN & WRITE simultaneously while preamp is in Manual mode until Unit Check mode activates |

The Making of... a Few Closing Words from the Amp Designer

At ENGL, we have always pursued the goal of delivering the greatest possible range of sounds and the highest quality tube tone with missionary zeal. The ENGL MIDI Preamp 580 is the latest product born of this philosophy. This project posed a very special challenge to me, ENGL's resident amp designer. The idea was to take all of the sounds I had implemented in earlier ENGL amps and converge them in a single device. What's more, we sought to chart entirely new sonic frontiers with this preamp. To make an already daunting task even more challenging, we decided that all sound-shaping features would be programmable. A tall order indeed, but I had an ace in the hole—ENGL was the first to present the special technology that powers programmable tube amps. An astonished music world applauded ENGL's efforts way back in the early '80s, so we had a great deal of experience to draw on. When we brainstormed this preamp, we agreed that the focus had to be on tone, tone, and more tone. With that in mind, I decided the amp would have to do entirely without semiconductors in the preamp stage, because this is the heart and soul of the preamp, the section so critical to its tone. That sent us straight back to the drawing board and the lab. Achieving all of these goals involved a tremendous amount of research, and it demanded highest performance from the computer system and software.

In a joint effort with a software specialist, we put in many, many hours of hard work to make our ambitions reality.

The result literally speaks for itself. As the first benchtest ratings will attest, this preamp hits the mark—it is a tone-generating monster. And it looks the part too, so all the time, trouble and top-notch materials we invested in its visuals paid off as well.

An amp this sophisticated requires some explanation. To make sure you understand it and all its workings, I put a great deal of effort into describing it down to the last detail in this manual.

Here's hoping you and your new ENGL MIDI Preamp 580 enjoy a harmonious future,

Horst Langer,
ENGL amp designer
and the entire ENGL team

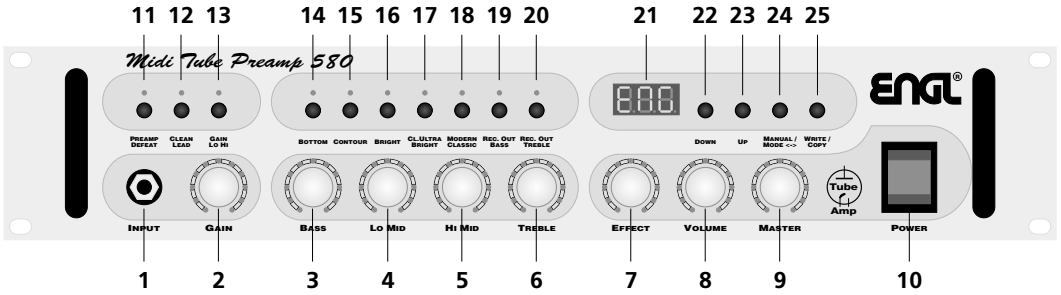
I would like to take this opportunity to extend my heartfelt gratitude to everyone involved in this project—despite the many challenges, it was a rewarding experience because you made it so.

User Presets

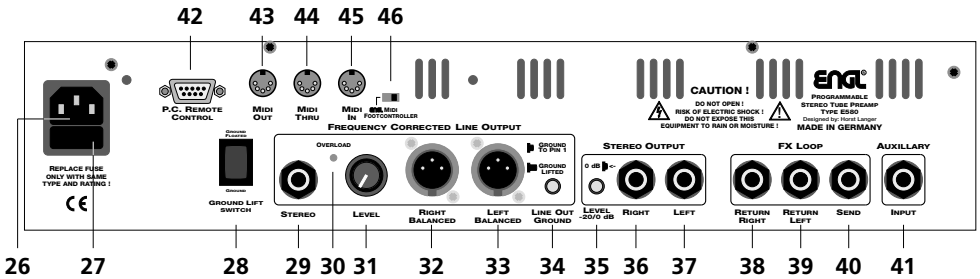
| Preset | Bank | | Preset-name | application |
|--------|------|---|-------------|-------------|
| 001 | A | B | | |
| 002 | A | B | | |
| 003 | A | B | | |
| 004 | A | B | | |
| 005 | A | B | | |
| 006 | A | B | | |
| 007 | A | B | | |
| 008 | A | B | | |
| 009 | A | B | | |
| 010 | A | B | | |
| 011 | A | B | | |
| 012 | A | B | | |
| 013 | A | B | | |
| 014 | A | B | | |
| 015 | A | B | | |
| 016 | A | B | | |

cross out the
unused Bank!

FRONT PANEL



REAR PANEL



Remote Control Panel launched on a PC



interface
info

activities
serial
number

status
info

Supplementary information for the ENGL MIDI Preamp 580's owner's manual

CAUTION: Be sure to read the following before you switch the preamp on when it is connected to a personal computer and the Remote software: Do not power up the preamp until after you have launched the Remote Control Panel Panel (RCP) on the PC!!!

If the "ENGL" logo does not run through the display after you switch the preamp on, immediately switch the preamp off again and check the serial interface (Com port). It is possible that this port is being used by another device and cannot be accessed by the Remote Control Panel.

In order to ensure that the PC accesses the desired Com port, proceed as follows:

1. After you start the RCP on the PC but before you switch on the preamp, press the "Receive" button.
2. If the message: "Cannot open Com Port!! !" appears, this tells you that the Com port is being accessed by another device.
3. In this case, select another Com port in the RCP's "Option" menu by enabling the menu item "RS-232 Com port" and confirming your selection via OK.
4. If the message "RS 232 Com-Port?? E580 connected??" appears when you press the "Receive" button, this tells you that this Com port is not otherwise engaged.
Switch the preamp on and observe the display. If the ENGL logo runs through the display, press the "Receive" button on the RCP again when the preamp activates Manual mode (000).
The manual setting on the preamp should be transmitted to the RCP.
5. If this is not the case and the messages "RS 232 Com-Port?? E580" connected??" appear again, check whether the preamp is connected to the Com port you selected on the RCP.

Notes to Item 2, GAIN (page 6):

The GAIN knob is linked with the ALC (Auto Level Correction; for more info see page 42 of the owner's manual) function.

When you increase the amount of input gain, the signal level (the pre-send volume level, that is) is adjusted automatically, meaning that it is rolled back. Vice versa, when you reduce the amount of input gain, the signal level is boosted. The effect is clearly audible, particularly when you're dealing with clean sounds. Don't be alarmed, this is entirely normal.

Notes on connecting a signal processor to the effect loop:

The level of the send circuit ranges from -20 to -10 dB, depending on the given gain setting. Note that this level is adjusted by the ALC function.

If you the preamp is being overdriven and high settings for "Hi Mid" and "Treble" have been dialed in, peak levels may attain just over 0 decibels in "Modern" operating mode.

**Supplementary information on the Remote Control Panel, RCP
(starting page 39):**

On the RCP, WRITE and COPY operations are carried out immediately after you activate the WRITE/COPY button. "Pro" appears just once for a brief moment in the display of the preamp to let you know that the given WRITE or COPY operation is being carried out.

When you want to copy MIDI presets from one bank to another, after you change banks on the RCP you must first select a new MIDI preset via UP or DOWN before the preset can be copied. It is not necessary to do this when you are carrying out the same operation on the actual preamp. On the amp you can copy a preset to the same preset number of the other bank without further ado.

Comments on Realtime Lock (page 40):

When "Realtime Lock" is enabled, all control functions on the RCP (UP, DOWN, MANUAL, BANK, SHADOW, WRITE/COPY) are disabled. If you want to transfer and store settings to the selected MIDI preset via "Transmit", you must first press the "Realtime Unlock" button.

A tip from the designer:

The option of storing settings on a PC in a file affords you greater convenience and flexibility. You can, for example, even select shadow presets and store their settings (that means old overwritten settings) elsewhere, for example, on the hard disk of your PC.

Beyond that, you can take at advantage of this option to copy a shadow preset to a MIDI preset (select the desired MIDI preset, open the stored file, "Transmit", "WRITE/COPY"). Once you activate "Transmit", the WRITE operation is started automatically and the setting is sent and stored in the selected MIDI preset.

MIDI-Implementation Chart

MIDI Receive: (MIDI IN)

MIDI program changes 0-127

MIDI channels 1-16

MIDI controller 7 main volume

The MASTER knob uses 11 steps made up of the 128 main volume commands.

MIDI Transmit: (MIDI OUT)

MIDI program changes 0-127 to the selected channel of the active bank

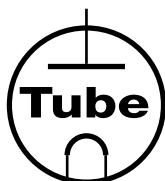
MIDI volume commands 1-128

If a bank is set to OMNI and messages are sent in from an external device, these messages are routed through via the same MIDI channel.

If a bank is set to OMNI and presets are changed internally - in other words, on the preamp or RCP - these program change commands are always sent via MIDI channel 1.

Controller 7 (main volume) commands are also sent in Manual mode as well as to the factory presets.

ENGL



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Technology**

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