

Instructions



WFM7HD, WFM7A, & WFM7M Video, and WFM7DG Audio Input-Module Installation

071-1111-01

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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Outside North America, contact a Tektronix sales office or distributor; see the Tektronix web site for a list of offices.**

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Terms in this Manual. These terms may appear in this manual:



WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*



CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Input Module Installation

This document provides instructions for installing a WFM7HD, WFM7A, or WFM7M video module, or a WFM7DG audio module into a WFM700 instrument. These instructions are divided into the following sections:

- *Incoming Inspection* lists the parts you should receive with your module installation kit.
- *Preventing Electrostatic Discharge* provides instructions for avoiding electrostatic damage to the instrument modules during the installation process.
- *Module Slot Assignments* lists the instrument slots into which a video or audio input module can be installed.
- *Module Installation* contains the instructions for installing or removing a video or audio-input module.

Incoming Inspection

Verify that you received all of the parts for your module installation.

Table 1 lists parts the WFM7HD, WFM7A, and WFM7M video modules.

Table 1: Parts list for WFM7HD, WFM7A, and WFM7M video modules

Quantity	Part number	Description
1 EA		INPUT MODULE, VIDEO; ONE OF THE FOLLOWING:
	672-1682-XX	WFM7HD MODULE
	672-1680-XX	WFM7A MODULE
	672-1677-XX	WFM7M MODULE
1 EA	344-0598-00	CLIP, GROUND
4 EA	211-0722-00	SCREW, MACHINE: 6-32 X 0.250, PNH, STL, CDPL, T-15 TORX DR
4 EA	211-0734-00	SCREW, MACHINE: 6-32 X 0.250, FLH100, STL, CDPL, T-10 TORX DR
1 EA	061-4247-XX	RELEASE NOTES; WFM700
1 EA	071-0916-XX	MANUAL, TECH; USER; WFM700
1 EA	071-1111-01	MANUAL, TECH: MODULE INSTALLATION, WFM7HD, WFM7A, WFM7M, WFM7DG

Table 2 lists the parts for the WFM7DG audio module.

Table 2: Parts list for WFM7DG audio module

Quantity	Part number	Description
1 EA	672-1720-XX	INPUT MODULE, AUDIO; WFM7DG
2 EA	211-0722-00	SCREW, MACHINE: 6-32 X 0.250, PNH, STL, CDPL, T-15 TORX DR
1 EA	061-4247-XX	RELEASE NOTES; WFM700
1 EA	071-0916-XX	MANUAL, TECH; USER; WFM700
1 EA	071-1111-01	MANUAL, TECH: MODULE INSTALLATION, WFM7HD, WFM7A, WFM7M, WFM7DG

Preventing Electrostatic Discharge

When performing any service that requires internal access to the instrument, adhere to the following precautions to avoid damage due to electrostatic discharge (ESD):

1. Minimize handling of static-sensitive circuit boards and components.
2. Transport and store static-sensitive modules in static protected containers.
3. Discharge the static voltage from your body by wearing a grounded antistatic wrist strap while handling these modules.
4. Service static-sensitive modules only at a static-free work station.
5. Do not allow anything capable of generating or holding a static charge on the work surface.
6. Handle circuit boards by the edges or hold onto grounded shields when possible.
7. Do not slide circuit boards over any surface.

Module Slot Assignments

Figure 2 on page 6 shows the slot-number assignments for the WFM700.

Video Modules The WFM7HD, WFM7A, and WFM7M video-input modules can only be installed in slot 2 or slot 3. The WFM700 must have a video module installed in slot 2 before you can install a video module in slot 3.

Audio Module The WFM7DG audio-input module can only be installed in slot 4.

Module Installation

Table 3: Tools required

Name	Description
Torx screwdriver handle	Accepts Torx-driver bits
T-10 and T-15 Torx tips	Torx-driver bit for T-10 and T-15 screw heads

Use the following procedure to add a new input module or to replace a defective input module.



WARNING. *Disconnect the power source from the WFM700 before beginning this or any procedure requiring you to remove the cover from the instrument chassis. Fan blades and other components inside the instrument could cause serious injury if power is on while the instrument chassis is open.*

Removing the Cabinet and Cover

1. Remove the instrument from the portable cabinet or rack adapter sleeve. If necessary, you can refer to the *Cabinet and Rack Adapter Installation* appendix in the *WFM700 User Manual*.
2. Place the instrument on a static-safe work surface. Be sure to follow safe handling procedures to avoid electrostatic damage to the instrument or module (refer to *Preventing Electrostatic Discharge* on page 3).
3. Remove the chassis cover as follows:
 - a. Loosen three attaching screws (T-10) along the left side and three screws along the right side of the chassis cover (see Figure 1). Loosen the screws sufficiently to free the cutouts in the cover (about 3 turns); you do not need to remove the screws from the side of the chassis.
 - b. Remove two screws (T-10) from the front of the chassis cover (see Figure 1). Save the screws for reinstallation.
 - c. Loosen the attaching rear-panel screws (T-15) at the top of the module rear panels in slots 2 through 6 (see Figure 1 for screw locations and Figure 2 for slot numbering). Loosen the screws sufficiently to free the cutouts in the cover (about 3 turns). It is okay to remove the screws, but be sure to save them for reassembly.

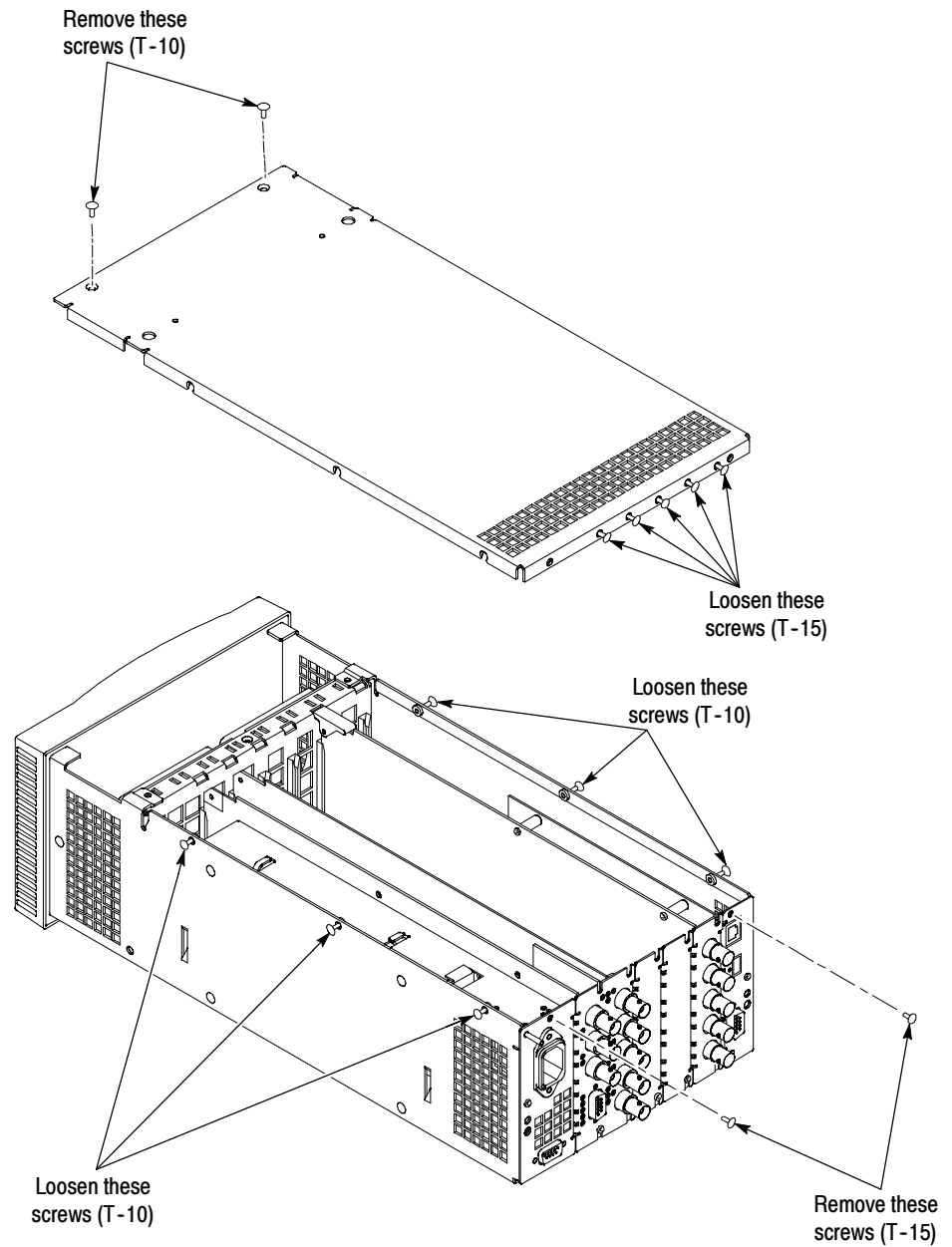


Figure 1: WFM700 chassis, showing screws to loosen and remove

- d. Remove a screw (T-15) from slot 1 and from the power supply (see Figure 1 for screw locations and Figure 2 for slot numbers).
- e. Lift the cover off the instrument. The rear-panel screws that you loosened will remain in the cover.

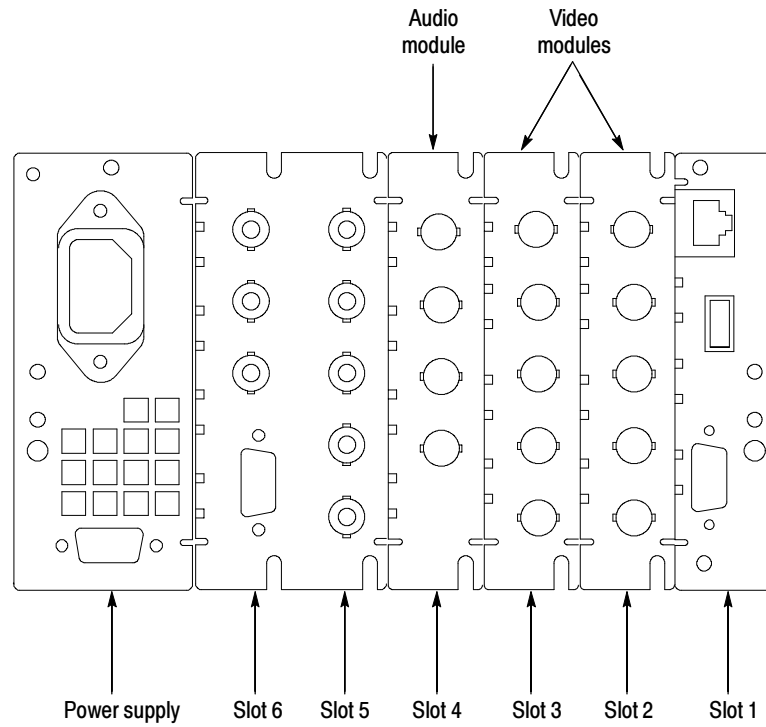


Figure 2: WFM700 rear panel showing slot numbers and locations of the video and audio input modules

Adding a Video or Audio Input Module



4. To add an input module, read this entire step before proceeding:

CAUTION. To prevent a module malfunction, be sure to install the video or audio input module only in their assigned slots as shown in Figure 2 and described in Module Slot Assignments on page 3. If you install the input module in an incorrect slot, the module will not operate properly and will fail boot up diagnostics.

- a. Identify the slot in which you will install the module:
 - Slot 2 or slot 3 for a WFM7HD, WFM7A, or WFM7M video module (slot 2 first video module; slot 3 second video module)
 - Slot 4 for a WFM7DG audio module
- b. Loosen the screw from the bottom of the unneeded rear panel spacer and pull it up and out of the instrument chassis.



CAUTION. To prevent damage to the EMI flaps on the rear panels when you are inserting a module, slide the module straight down.

Be sure that the white ejector lever is level with the module, so that it won't get jammed in the fan housing as you install the module.

- c. Prepare to insert the module by lining it up with the plastic guide toward the front of the instrument and by placing the white ejector lever in the down position, level with the module. See Figure 3.
- d. Slide the module straight down, into the plastic guide, and line up the connectors on the module with the pins on the Main board below.
- e. Applying firm pressure to both ends of the module, press it all the way down and into place.
- f. Install and tighten the screw (T15) that attaches the bottom of the module rear panel to the instrument chassis.
- g. If you are installing a second video input module, install the grounding clip that was shipped with the module (see Figure 4).
- h. Proceed to Step 6.

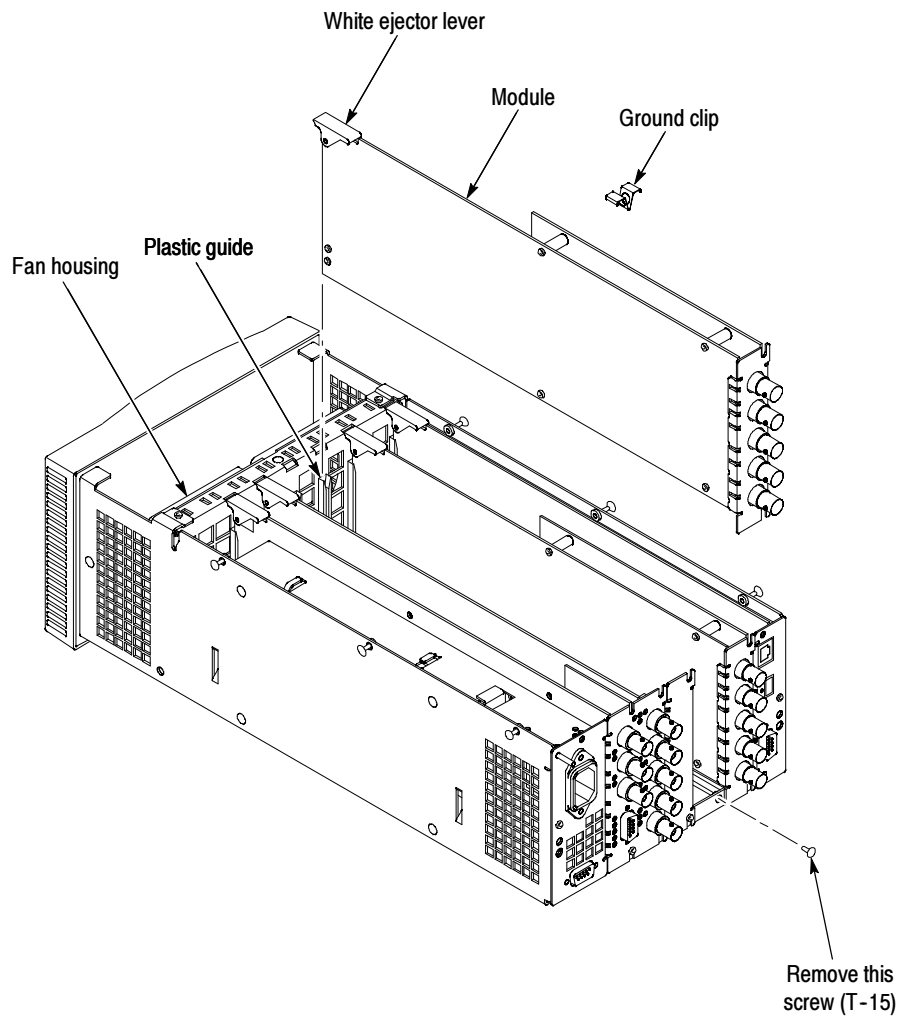


Figure 3: Inserting the new module into the chassis, second video module shown

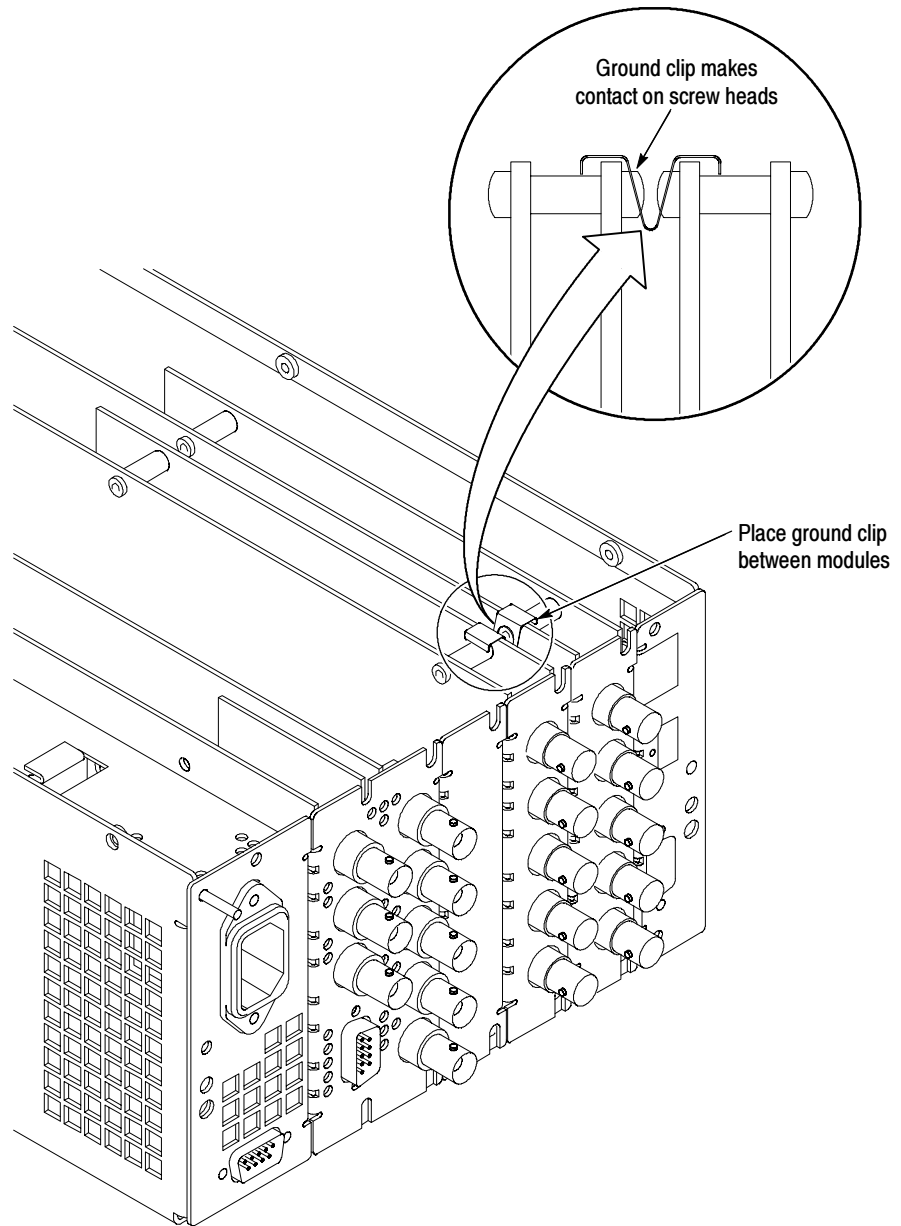


Figure 4: Installing the grounding clip between two video input modules

Removing a Video or Audio Input Module

5. To remove an input module, read this entire step before proceeding:
 - a. Loosen the bottom screw on the rear panel of the module you are going to remove.
 - b. If you have two video input cards with a grounding clip installed, remove the grounding clip (see Figure 4).



CAUTION. To prevent damage to the EMI flaps on the rear panels when you are removing a module, slide the module straight up.

- c. Lift the white ejector lever located near the front of the module.
- d. Holding onto the lever and the rear panel BNC, carefully pull the module up and out of the instrument. Be careful not to damage the EMI flaps on the rear panels.
- e. If you are replacing the module with a new module, follow the instructions for adding a module in step 4.

Replacing the Cover and Cabinet

6. Replace the chassis cover as follows:
 - a. Insert the lip on the rear of the cover inside the rear panel, lining up the screws in the cover with the rear panel cutouts.
 - b. Line up the screws along the left and right sides of the cover with the cutouts on the sides of the chassis.
 - c. Install the two screws that you removed across the front edge of the chassis cover and the two screws that you removed from the slot 1 and power supply rear panels.
 - d. Hold the cover on the chassis tightly, applying pressure to compress the foam underneath. Tighten the screws along the right and left sides of the chassis. (If it is easier for you, turn the instrument chassis on its side while tightening these screws.)
7. Reinstall the instrument into either a portable cabinet (WFM7F02) or a rack adapter (WFM7F05). If necessary, you can refer to the *Cabinet and Rack Adapter Installation* appendix in the *WFM700 User Manual*.

8. Install the power cord and power on the instrument.
9. Run the diagnostics (press the CONFIG button and select the Run Diagnostics soft key) to be sure there is no problem with the new module.
10. You can select the following menu sequence to see a list of all installed modules, including any new modules:

[HELP button > System Info > Installed Modules]

This completes the video or audio-input module installation.

Verification

Although the input module was tested before it was shipped to you, it is recommended that you verify proper instrument operation by performing the procedures in the *Functional Check* section of the *WFM700 User Manual* (Tektronix part number 071-0916-XX) supplied with this input-module installation kit.

■ End of document ■

