**Application Note** 

/inritsu

# Remote operation with the FrontSim option

02

CMA 3000

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# INTRODUCTION

CMA 3000 is Anritsu's next-generation portable, compact and user-friendly field tester. It's designed specifically for field technicians who install and maintain mobile-access and fixed-access networks, transmission networks and switching.

The CMA 3000 is optimized for field applications where easy transport is essential. However, there are applications where it can be convenient to connect to the instrument from a PC through a Local Area Network (LAN) or the Internet.



Figure 1 Direct connection between CMA 3000 and a PC.

For such applications the CMA 3000 supports remote access through the FrontSim software option running on a PC and in the instrument. FrontSim simulates the front of a CMA 3000 as accessed from the PC. This allows you to operate the instrument and view results on the PC exactly as if you're working on the instrument itself, as long as both PC and the CMA 3000 are connected to a LAN or to the Internet. From the same PC it's possible to control several instruments remotely.

# 1.0 Access the CMA 3000 through a LAN

To control the CMA 3000 remotely you have to assign an IP address to the instrument. To do so connect the CMA 3000 to the LAN. Then select the Misc./System Configuration/Service Interfaces window from where you allot an IP address to the CMA 3000.

STM1e,E1 Q STM1e,E1 Q	Interface	Application	Result	Status	Misc.	Help	5.6
Instrument information Service interfaces Display setup	V.24 Bau [11]	vice Interface Setup d rate 5200 T strnet 10 / 100-	25			C ba	hange aud rate
Global setup	0 I IP A 17	DHCP <b>©</b> St ddress 22.16.161.248	Subnet m	ask 55.0.0	Gateway Addre 172.16.0.2	2 C	hange IP
	USB Tota Use Avai	Storage device al size : d : ilable :				US	1ount B Device
							08:55:49

Figure 2 The Service interfaces setup window allows you to allot an IP address to the CMA 3000.

Normally the LAN will automatically give the instrument an IP address, using the Dynamic Host Configuration Protocol (DHCP). You can select this option by pressing the DHCP button; read the allocated IP address, and program that into the FrontSim.

However, as the name indicates the DHCP-allocated IP address is dynamic of nature and in most networks it will change over time. For certain applications it will be convenient to allocate a fixed IP address to the instrument. To get a fixed address you must contact your LAN administrator. Once obtained you can select this by clicking the "Static IP" menu and then click the IP Address field to enter the address into the resulting pop-up dialog box. You will also need to program the Subnet mask and Gateway Address in accordance with your LAN administrator's instructions. When the relevant information is entered, hit the "Change IP" softkey to activate the new settings.

Once you have assigned an IP address to the CMA 3000 you can access it from FrontSim simply by entering the instrument's IP address and then click Connect.



Figure 3 The connection list provides easy access to remote instruments.

# 2.0 Access the CMA 3000 through the Internet

If you need to access a CMA 3000 through the public Internet you must assign a fixed IP address to the remote instrument. In this case you need to contact your Internet Service Provider. When you have the fixed IP address proceed in the same way as described as for the Fixed IP address in the previous section.

# 2.1. Stand-alone connection

In some cases it's relevant to connect a CMA 3000 directly to a PC without going through a LAN. This can be done if the instrument and the PC are connected through a crossed Ethernet network cable, such as the Anritsu cable part No. 01463090. In this case you need to allot a fixed IP address to both instrument and PC. For the CMA 3000, please follow the instructions in section 1.0.



Figure 4 Direct connection between CMA 3000 and a PC.

To set up a PC with Windows XP first make sure that your PC is disconnected from the LAN or the Internet. Then you:

- Right-click on the "My Network Places" icon on the desktop
- Click on properties; you will now get a list of available network connections
- In the list "LAN or High Speed Internet" identify the LAN connection you want to use to communicate with the CMA 3000. Right-click on the selected connection
- Click on properties; you will now get a list of items used by the selected connection
- In the list of items used by the particular connection identify and select the item "Internet Protocol (TCP/IP)"
- Click on the Properties softkey
- In the appearing setup dialog box select the menu item "Use the following IP address", and then enter an address. To allow communication between CMA 3000 and the PC the most significant parts of the address must be the same. An easy way to handle this is to ensure that the first 3 parts of the IP address are the same on PC and instrument while the last part differs. Assuming CMA 3000 has the same address as designated in the previous section (172.016.161.248), the PC could get the address 172.16.161.200 (leading zeroes omitted). Make sure that the Subnet mask is programmed in the same way as on the instrument. Finally, click OK in this and the previous dialog box
- Upon completion of the remote operation of the CMA 3000 make sure to return the TCP/IP properties to the original settings

Local Area Connection 2 Properties	? ×
General Authentication Advanced	
Connect using:	
Broadcom 570x Gigabit Integrated Controller	
Config	gure
This connection uses the following items:	
File and Printer Sharing for Microsoft Networks     OoS Packet Scheduler     Internet Protocol (TCP/IP)	
•	
Install Uninstall Prope	rties
Description Transmission Control Protocol/Internet Protocol. The de wide area network protocol that provides communicatio across diverse interconnected networks. Show icon in notification area when connected	fault n
ОК	Cancel

nternet Protocol (TCP/IP) Properties								
General								
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.								
O Obtain an IP address automatically								
Use the following IP address:								
<u>I</u> P address:	172 . 16 . 161 . 200							
S <u>u</u> bnet mask:	255 . 255 . 0 . 0							
Default gateway:								
O <u>b</u> tain DNS server address automatically								
© Use the following DNS server addresses:								
Preferred DNS server:								
Alternate DNS server:								
	Advance	:d						
	ОК С	ancel						

Figure 6 Setting up the fixed IP address for a PC.

Figure 5 The list of items used by the selected Ethernet connection of the PC.

The way to access the "Internet Protocol (TCP/IP) Properties" menu differs somewhat for other versions of Windows, but the general principle is the same. The important thing is to allot a fixed IP address to the PC.

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