(GB)

SPI-300

**SETUP GUIDE FOR
THE «MCP-800» TWIN MODULATORS
USING THE SPI-300 PROGRAMMING UNIT**

IKUSI

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1. THE START SCREENS

1.1 - Module Basic Information

As explained in the Basic Handling guide supplied with the SPI-300, when you connect this to the module all data for identification, configuration and status of the module are loaded on the SPI-300. A detection screen appears for a short time, and next the display shows the Basic Information screen, which identifies the module and presents its most representative configuration and status data.

The basic information screen for the MCP-800 twin modulators is the following :

```
MCP-801          Alarm:No
F01.06        Au1:Mo  Au2:Mo
Freq.1: 471.25 - BG
Freq.2: 479.25 - BG        OK
```

These are the meanings of the expressions and data displayed :
- Model.
- "F-.-" : Version of the firmware (the firmware is the software stored in the module that manages its basic running).
- "Alarm" : Informs about the existence or not of working failures.
- "Audio 1" and "Audio 2" : Informs about the Audio Mode (mono, stereo, dual) selected for each one of the two output channels.
- "Frequency 1" and "Frequency 2" : They are the video carrier frequencies, in MHz, of the two output TV channels.
- "TV Systems" : They are the TV systems of the two output channels, being the normal that the system be the same for both channels. They are indicated in the same screen lines of the aforesaid frequencies.

The screen closes using the OK command (key ⊙). Then the Main Menu Screen appears (page 8 of the Basic Handling guide).

1.2 - Main Menus

As explained in the Basic Handling guide, the **General** menu is identical for all the modules and its contents was described on page 8. The **Settings** and **Info** menus include, however, options and information which are peculiar to each type of module. Those of the MCP-800 modulators are the following:

- **Settings** menu : It presents a previous screen on which you must select what section of the twin modulator you want to programme. Once the selection is made, the particular screen with the *RF*, *Video* and *Audio* options appears.

```
1 ▶ Mod.1 Settings          1 ▶ RF
2   Mod.2 Settings          2   Video
                            3   Audio
ESC              SEL        ESC         M1   SEL
```

- *RF* : You must select it to set the parameter values related to the RF output signal of the modulator.
- *Video* : Allows to select the available video options.
- *Audio* : Idem, the audio options.

The last line of the screen shows the "M1" or M2" expression depending on you have selected *Modulator 1 Settings* or *Modulator 2 Settings* in the previous screen. This expression is maintained in the next programming screens, indicating at any time the section of the modulator that is being currently set.

NOTE : When you want to change the section of the modulator from whatever screen, select repeatedly the ESC or CANCEL command until you reach the selection screen shown above left.

- **Info** Menu: Allows to get access to detailled information about the funtionning of the module, further on the one provided by the basic information screen (see previous page). Information is distributed in two screens, each one related to a menu option:
- *Alarms :* Informs whether the module has some alarm activated and its type.
- *Details :* Identifies the module and displays outstanding data.

```
1 ▶ Alarms
2   Details

ESC              SEL
```

2. THE SETTING SCREENS

2.1 - The RF Screen

This screen appears when you select the *RF* option in the **Settings** Menu. It contains two pages. Through these pages the different parameters and selection options are displayed (the scroll arrows ▲ and ▼ at the lower line warn that you are in a page). Remember that the change of page is accomplished by the keys ↑ or ↓.

When the option is selected the first page appears:

```
1 ▶ Frequency : 687.25
2   Ch :
3   Attenua:  |||◀|||||||
SEND  ◀ ▶       ▼     M1    SEL
```
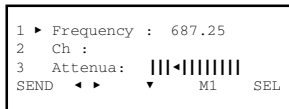
● "Frequency" : Is the video carrier of the output TV channel, in MHz. There is a numerical field where you can enter the number either by any one of the ways that were described in paragraph 1.3 of the Basic Handling guide (Entering Data, page 9), or using the third option, "Ch", which is explained next.

● "Ch" : If you select this option, a Channel Selection screen appears. This screen allows to do the frequency selection in a quickly and secure way through two pick lists, "TV System" and "TV Channel", which are displayed by using the SEL command (key ✍). Through these lists you select the TV system and the TV channel.

```
1 ▶ Sys: B/G
2   Ch: 21→471.25MHz

DONE  ◀ ▶              M1    SEL
```
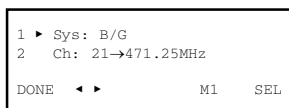
Use the DONE command (left lower corner, key ✍) to validate the selection, or the CANCEL command to not validate. The screen closes and the above first page appears again (it will show the new value of Frequency, if this is has been changed)..

● "Attenuation" : Is the attenuation for the RF level of the TV channel output signal. Setting is carried out in real time through a slide icon: when you move the slide, the new value of the attenuation is instantaneously established in the module, that is to say, you have not to use the SEND command. To state exactly the setting value for the RF level you must use a spectrum analyzer or a field strength meter.

Press the key ↓ to reach the second page of the *RF* screen, where you can do the following selections :

```
4 ▶ CaRatio :      12dB
5   2ndIntercar.: 5.742
6   NICAMlv:  |||◀|||||||
SEND  ◀ ▶       ▲     M1    SEL
```
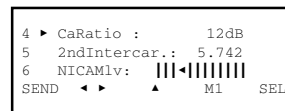
● "Carrier Level Ratio" : Is the ratio between the levels of the video and audio carriers (first audio carrier in A2 or Nicam modulators). Use the SEL command (key ✍) to open a pick list that presents two options: 12dB and 16dB. Place the slide on the desired option and press ✍ .
In A2 modulators, the level of the 2nd audio carrier is -20 dB (unmodifiable).

● "2nd Sound Intercarrier" : If the modulator is going to operate in stereo or dual mode, this line is merely informative about the frequency of the 2nd sound intercarrier except for D/K A2 system, in which case one must choose one of the three values through the pick list that is open when using the SEL command (key ✍). The following table shows the standard frequencies of the 2nd sound intercarrier :

TV System	2nd Intercarrier Frequency (MHz)
B/G - A2	5.742
D/K - A2	5.742 / 6.258 / 6.742
B/G/D/K/L - Nicam	5.85
I - Nicam	6.552

The next line (NICAM level) only appears if the modulator is Nicam type:

● "NICAM level" : This adjustment refers to the level of the Nicam carrier. Standard ratio between the levels of the video and Nicam carriers is 20 dB for systems B, G, I, and 27 dB for systems D, K, L. Factory setting is 20 dB, and for modifying it you must move the slide with the keys ← and → . Adjustment operates in real time, and for stating a very value you must use a spectrum analyzer.


2.2 - The Video Screen

This screen appears when you select the *Video* option in the **Settings** menu. It contains information, selection and setting parameters:

```
1 ▶ TV System :      D/K
2   Test :            X
3   MoDepth  :|||||||◀|||
SEND  ◀ ▶              M1    SEL
```
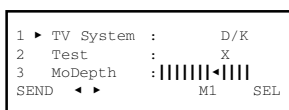
● "TV System" : Use the SEL command (key ✍) to display a pick list where you must select B/G, D/K, I or L, as befit.

● "Test" : This option is activated and disactivated by placing the slide on the line and then using the SEL command. When you active this option, the modulator generates a test pattern signal.
Besides the main test functionality, the generation of a video signal makes easier to incorporate "only audio" channels within a general system of TV programs distribution. (Warning: the channels will be "mono" sound, despite stereo sources are at your disposal and stereo/dual modulators are being used).

● "Modulation Depth" : Is the modulation depth of the TV channel output signal. The adjustment will be merely visual from a TV set. It is also carried out through a slide icon.

2.3 - The Audio Screen

This screen appears when you select the *Audio* option in the **Settings** menu. It allows to select the operation mode and to set the modulation indexes.

```
1 ▶ AudMode : Stereo
2   Audio1 :  |||◀|||||||
3   Audio2 :  |||||||◀|||
SEND  ◀ ▶              M1    SEL
```
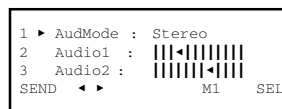
● "Audio Mode" : Is the audio function of the modulator.

a) THE CONNECTED MODULE IS A "MONO" MODULATOR:
The line is merely informative: the mode cannot be other than Mono.
NOTE: Remember that you can use a stereo source with a "mono" modulator. The L and R signals are summed by the modulator itself.

b) THE CONNECTED MODULE IS AN "A2" OR "NICAM" MODULATOR:
Display a pick list by using the SEL command (key ✍), and then select the desired audio mode:

- STEREO : In this operation mode, the adjustments of the Audio 1 and Audio 2 modulation indexes (which are carried out on the second and third lines of the screen) are not independents but they vary in unison.

- DUAL : In this operation mode, the Audio 1 signal (the signal modulating the first audio carrier, and also the sound 1 in Nicam system) is the one that is present at the L connector, and the Audio 2 signal (the signal modulating the second audio carrier in A2 system, or the sound 2 in Nicam system) is the one that is present at the R connector. The adjustments of the Audio 1 and Audio 2 modulation indexes (second and third lines on the screen) are independent.

- MONO : In this operation mode, the Audio 1 signal (the signal modulating the first audio carrier) is the signal that is present at the audio input L connector —the R connector is inoperative—. The Audio 2 option (third line on the screen) is not available for this mode.

● "Audio 1" : Is the audio modulation index of the first audio carrier (the unique audio carrier, in the case of "mono" sound), and also the amplitude of the sound 1 in Nicam system. The adjustment must be eminently auditory from a TV set and is carried out in real time through a slide icon.

● "Audio 2" : Is the audio modulation index of the second audio carrier in A2 system, or the amplitude of the sound 2 in Nicam system. The adjustment process is like for Audio 1.

3. THE INFORMATION SCREENS

They provide information about working of the connected module. Information is distributed in two screens which are related to the two options of the **Info** menu: *Alarms* and *Details*.

3.1 - The Alarms Screen

Informs about the existence of failures in the processing of the signal (stated for each one of the two sections of the modulator) or in the internal components of the module. Character "X" warns there is an alarm situation and "0" means the status or working are correct:

```
M1 Status : 0
M2 Status : 0
Hardware : X
Cod : 00804000      ALMSTOP
```

- "M1 Status" : General operation of the section 1 (modulator 1).
- "M2 Status" : General operation of the section 2 (modulator 2).
- "Hardware" : General hardware of the module.
- "Code" : This is a global alarms code which is useful when contacting IKUSI's technical support.

Use the ALMSTOP command (key ⌾) to stop the alarms information update. The OK command appears then in the same place; use now this one to close the screen.

3.2 - The Details Screen

This screen identifies the module, shows the firmware version installed and informs about the operation of the audio and remote control (ikusup) functionalities:

```
            Details
MCP-801   F01.06
Audio1:--      Ikusup: X
Audio2:--              OK
```

The expressions for the audio functionality have the following meaning:
- - : Operative Mono   ,,   A2 : Operative A2   ,,   Ni : Operative Nicam

Idem for the remote control functionality:
0 : Operative Ikusup   ,,   X : Nonoperative Ikusup

Use the OK command (key ⌾) to close the screen.

4. THE DIVERS SCREENS

It is one screen that befit an operation that has already described in the Basic Handling guide : Use of Configurations.

4.1 - The Configurations Screen

On pages 12/13 of the Basic Handling guide was defined what is a module configuration, were indicated the advantages of its use and were described the processes of creation and utilization through the screens that appear when you select the *Save* and *Recall* commands in the **General** menu. Therefore it is not to add more information.

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