
TRF-498

PAL-SECAM-NTSC

TV Generator

(Brief)



- wPAL, SECAM, NTSC and all substandards
- wPicture format 4:3/ 14:9/ 16:9
- wInterlaced and non-interlaced patterns
- w69 test patterns, 5 user definable
- w25 preselections, auto-switch mode
- wOutputs: Video (CVBS), S-Video, RGB, Y, R-Y, B-Y and another
- wWarranty: 24 months, lifetime service

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TRF-498 TV generator data

Indication Display Current setup (visible items) Menu	backlighted LCD, 2x16 characters pattern number, television standard, picture format, vertical frequency in Hz, field mode, included chrominance, colour subcarrier frequency in MHz or SFM for SECAM FM, chrominance channel filter, luminance channel filter, output signals 33 items
Setting Standard Quick Selection Preselections	menu oriented device control direct control of basic parameters using keys on front panel 25 preselections divided into 5 memory, 5 banks per memory
TV standards Picture format TV lines count Scanning Colour subcarrier	PAL, SECAM, NTSC and all substandards 4/3, 14/9, 16/9 625/ 50 Hz, 525/ 60 Hz interlaced, non-interlaced according to PAL, SECAM or NTSC standard (including lock to line frequency as required)
Test patterns Standard User Generation method	64 standard patterns 5 user patterns TRUE PICTURE technology (maximum TV resolution)
Outputs CVBS (Video) S-Video Y (luminance) CHROMA (chrominance) R (red) G (green) B (blue) C _R Y C _B Audio Line Gate PC Interface	<i>(This values are valid only in case the generator is under standard setting)</i> 75 ohm, level 1,2 Vpp (colour bars 100/0/100/0), level 1 Vpp (colour bars 75/0/75/0) 75 ohm, level 1 Vpp (colour bars 100/0/100/0) 75 ohm, level 0,6 Vpp (colour bars 100/0/100/0) 75 ohm, level 0,7 Vpp (colour bars 100/0/100/0) 75 ohm, level 0,7 Vpp (colour bars 100/0/100/0) 75 ohm, level 0,7 Vpp (colour bars 100/0/100/0) RGB outputs can be switched to CDF (colour difference) mode (see menu item nr. 13). Output levels at R/C _R , G/Y, B/C _B are adjustable in wide range (see menu items nr. 14, 15). symmetrical audio output 600 ohm/ 1,55 V _{eff} , sin. 1 kHz TTL levels (pin 12 of "PC Interface" connector) communication interface (use TRF Manager to configure TRF-498 from PC)
Ffrequency characteristic (outputs) CVBS and S-Video R/C _R , G/Y, B/C _B	4 filters in luminance channel (see menu item nr. 11) 2 filters in chrominance channel (see menu item nr. 10) luminance signal has gain -3 dB at 6 MHz and -12 dB at 8,5 MHz, colour difference signals has gain -3 dB at 2,5 MHz and -12 dB at 3,5 MHz Note, the RGB signals are created by dematrix frequency limited (see above) signals C _R , Y a C _B .
Power Dimensions Weight	DC 14 ...16 V/ max. 450 mA (note: 9 ... 14 V version available, too) 190 x 42 x 132 mm (W x H x D) cca 550 g

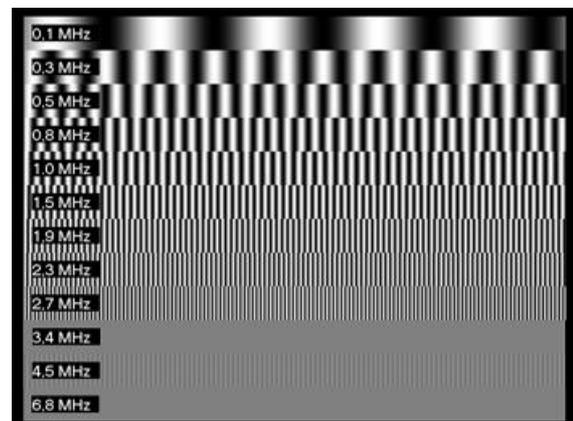
User patterns

The TRF-498 TV generator can store up to 5 user patterns. User patterns are always designed for 525 lines or 625 lines mode. You can use it in any picture format, but if the current screen format differs from designed, geometric distortion or clipping can occur.

User patterns contain one or two fields. In the first case you can select "I1", "NI" and "NL" scanning mode, in the second case the "I2" mode, too. Generator memory can contain up to 5 fields, so you can store 5 patterns with one field, or 1 pattern with two fields and 3 patterns with one field or 2 patterns with two fields and 1 pattern with one field.

This patterns are completely user definable. You can create it using bitmap picture editors or download required patterns from internet. From factory the generator is fitted with the most popular set of patterns.

If you want to create special patterns (monoscopes, anti-PAL and so on), you should use "TRF Manager" software. The last version is very powerful and you are able to create your own patterns "in a minute or two". Moreover you can store TRF-498 configuration to disk, save preselections, retrieve it and many more.



TRF-498 monoscope example and multiburst example (format 4:3, 625 lines, 50 Hz)

TRF Manager

The "TRF Manager" CD contain software packs that help you:

- create your own test patterns or modify completed,
- change standard patterns,
- edit preselections,
- configure TRF-498 from PC,
- and many more!

Moreover the CD contain set of completed user patterns, standard patterns, preselections and another data files.

You can find here various utilities, documentation and teletext specification ETS 300-706.

Installation

Insert CD into computer, open folder "TRF Manager" and run installation wizard named "SetupENG.exe". Select installation type, destination folder and run installation.

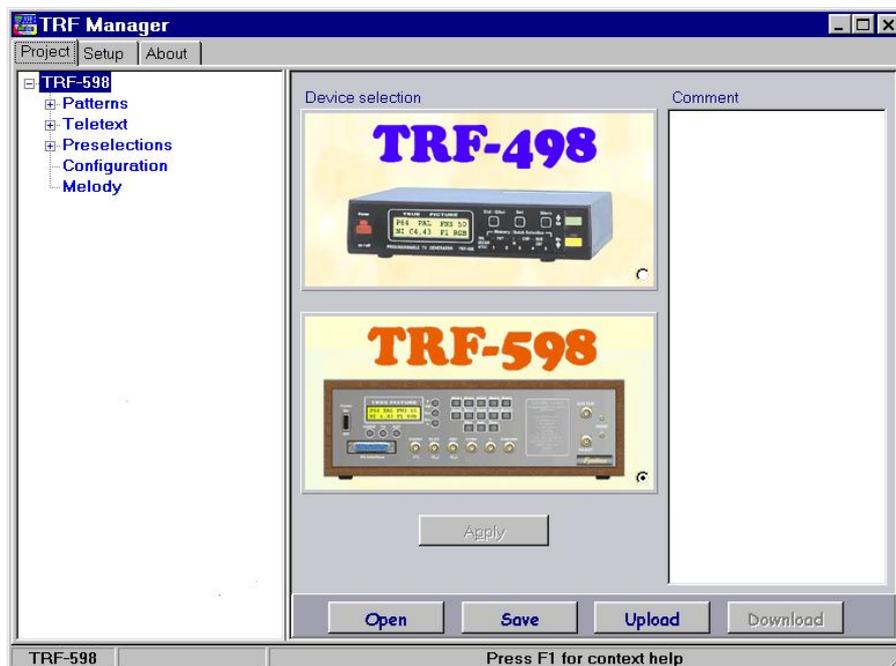
Program "Pattern Viewer" show pattern files (PNF extension) content and is automatically associated with this file type. You can run it by double clicking the pattern file.

Other programs are associated with appropriated file types, too. But you can find them in "Start/ Programs/ TRF Manager" and run it directly:

- **TRF Manager** ...main program (TRF-498 control, project administration and so on),
- **Pattern Creator** ...creates your own patterns.

TRF Manager

Data for TRF-498 TV pattern generator are prepared in form a project. The project you can open or save to disk and upload to generator. Project is divided into several separated parts (patterns, teletext, ...). Many of them you can individual open or save to disk, upload to generator and, in case of preselections, download from generator. You can select requested project part in the tree located near left side of program window.



When you work on new project, you should first select device type. Device can be changed later, but not all properties are supported by all types.

But it is very helpful if you have more generators and want setup them to the same state.

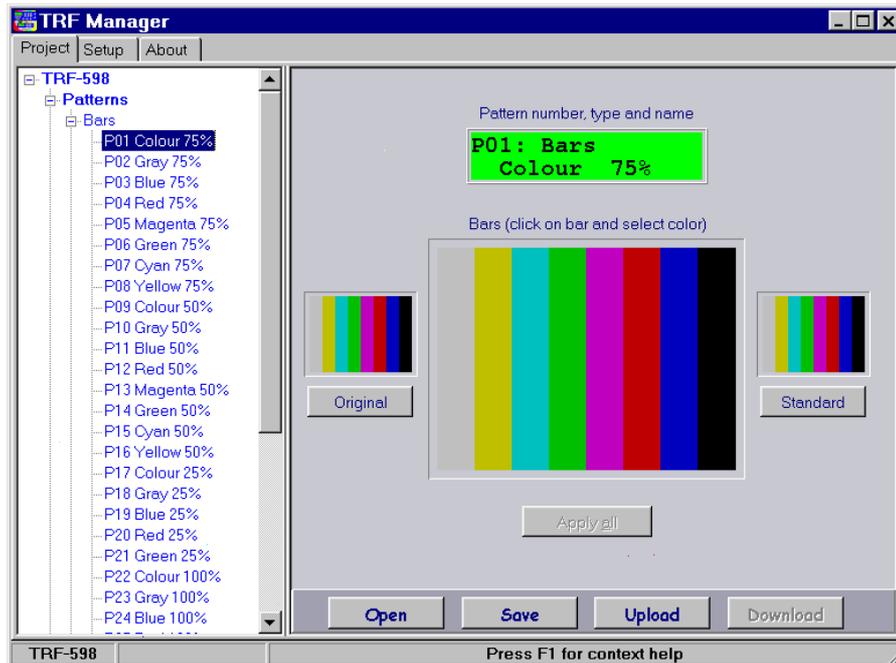
This window enables you add comment to project, too.

TRF Manager main screen (device selection, comment, project open, save, upload)

Bars, areas

If you select in project tree bars pattern, at the right side appear editor. At the top is pattern number and type and at second line pattern name. If selected device support name changes, you can type your own name here.

Note, the name length is limited. Delete previous text before you type new (use Del key for example).

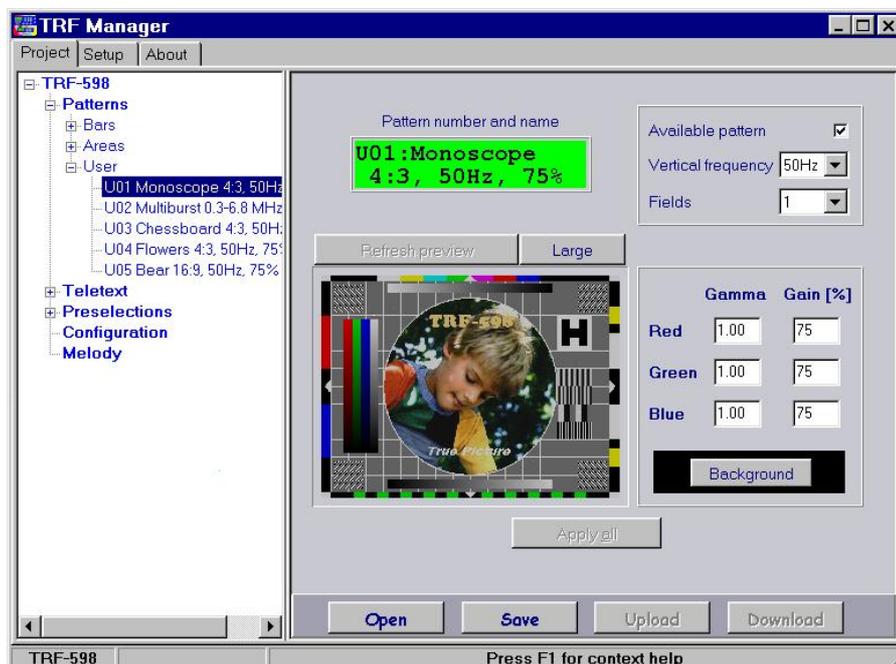


Bars pattern editor (areas pattern editor is similar)

User patterns

In project tree select one of five user patterns. On the right appear user pattern property editor and pattern preview (if auto preview function is enabled, see "Setup").

At the top is pattern number and name. Set cursor at the first or second line and type your own name. Note, the name length is limited. Delete previous text before you type new (use Del key for example).



User pattern property editor

Center part of editor show pattern preview. Click on bar and set colour coordinates as you need.

Click button "Previous" to restore pattern to previous state or press "Standard" button to restore pattern to default state. Above buttons you can see appropriate pattern preview.

Changes are stored to project by button "Apply all".

If you select in project tree area pattern, you can edit it in a similar way.

If pattern preview is not visible, press button "Refresh preview". If you need larger preview, press button "Large".

Pattern parameters are at right. All user patterns are stored to project, but only "Available patterns" are uploaded to generator. Note, the total field count must be less or equal to 5.

Background colour is used only after vertical frequency change or if you import smaller bitmap image.

Changes are stored to project by button "Apply all".

To create new user pattern, use "Pattern Creator".

Preselections

Preselections are labeled by number (from 1) followed by bank symbol (A to E). The number come up to device key where the preselection is stored and bank symbol give press count to recall requested preselection.

In project tree select preselection you want to edit. At the right appear editor that enables you to change preselection parameters. At the top is preselection number, bank and name. Change

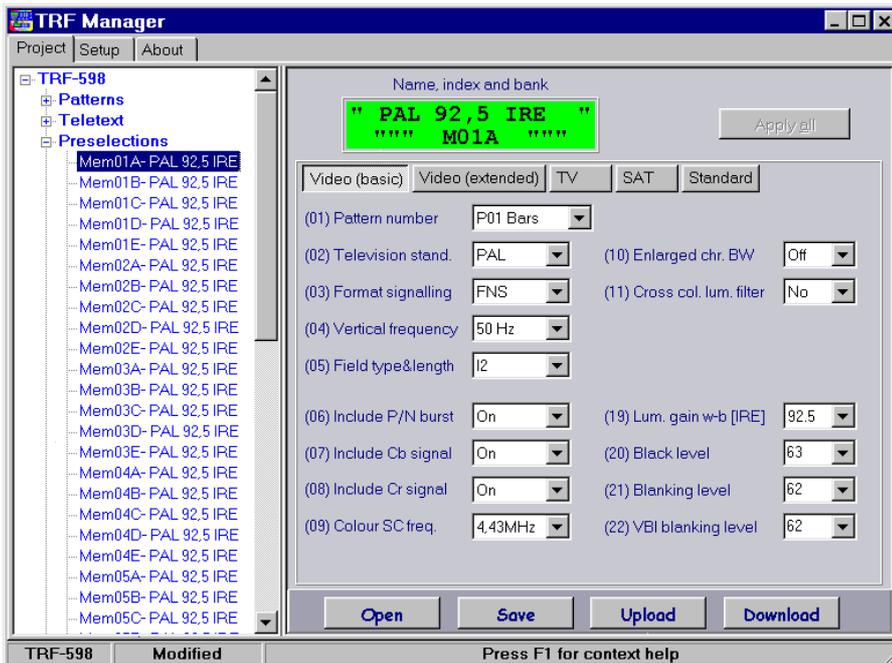
the name, if selected device support it.

Note, the name length is fixed. Delete previous text before you type new (use key Del for example).

Preselection parameters comes up to TRF-498 TV generator menu items. See item number and find detail description in user manual.

If some items are grayed, then selected device do not support it.

Store changes to project using "Apply all" button.



Preselection editor

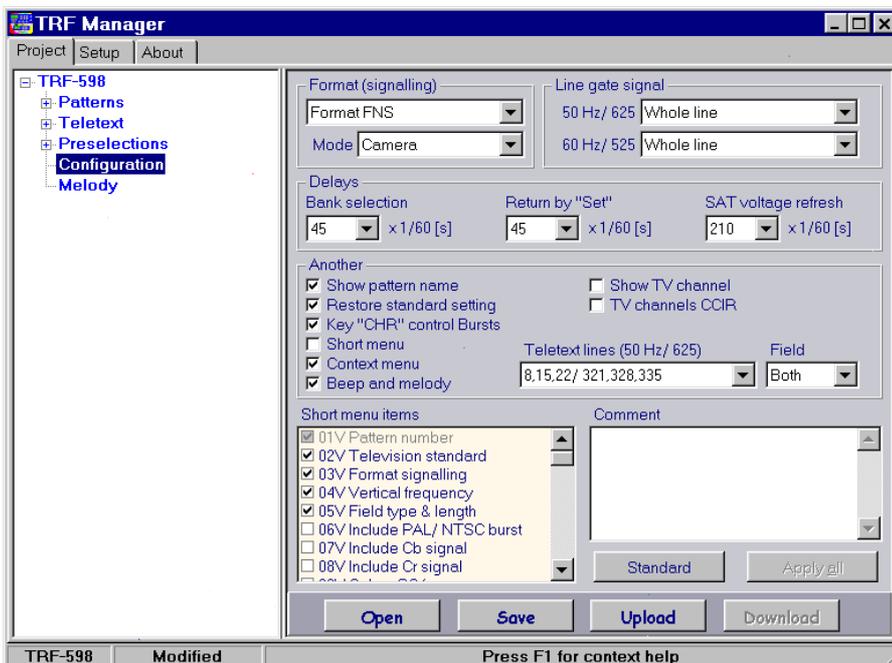
Device configuration

The TRF-498 TV generator allows you to configure some parameters only using your PC and "TRF Manager" software. If some items are grayed, then selected device do not support it.

Items contain plain description (see figure below). Short menu items allows you check items, that only appear if you select "Short menu mode".

Add comment to your own configuration and press button "Apply all" to store changes.

Press button "Standard" to restore device configuration to default state.



Device configuration editor

Environment parameters

TRF Manager allows you to customize program environment. Select "Setup" bookmark and set folders, colours and another parameters. Changes may be valid only before you close the program ("Apply all" button pressed only) or you can store applied changes as default using "Save" button.

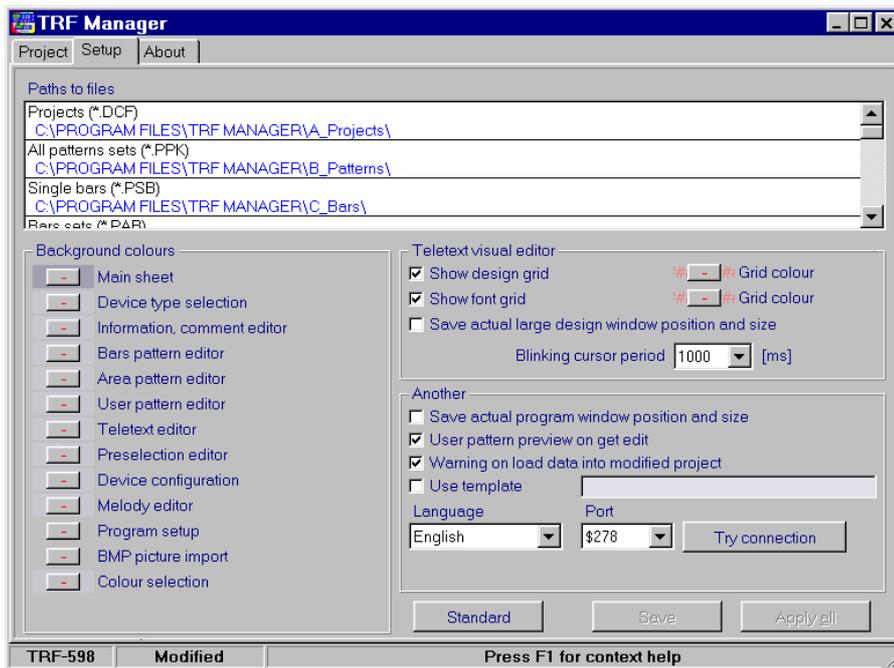
Be careful when you select communication port number. The TRF-498 TV generator have to be connected only to valid parallel (LPT) port of your computer. Use only original cable and

connect TV generator into PC only after program call you. If you disappoint this rules, you can damage computer and generator.

If you are not able to find port number under Windows, contact your computer dealer.

Press "Try connection" to check communication.

To restore parameters to default state, press button "Standard".



Program environment setup

Pattern Creator

Use "Pattern Creator" to design your own television test patterns and signals. The program menu contain following items: "File", "View", "Insert" and "Help".

File

Init new design by selecting "New" or open existing PCF file using "Open". To close file use "Close" menu item. Changes you can store using "Save" or "Save as" items.

You can save designed pattern either in component format (PCF extension) or in pattern format (PNF extension). Component files may be opened and modified using Pattern Creator, while pattern files are created only for TRF Manager and for transfer to TRF-498. Components files may be converted to pattern files, but pattern files cannot be converted back to components.

Use "Exit" to close the program.

View

User pattern is created from components. All components you add are listed in Pattern Creator window and you can change its order or properties. You are able to hide some components, too. Current pattern preview is visible in separate window after you select "Pattern" item. Note, it is preview only and some special signals (anti-PAL, etc.) are simplified.

If "Auto refresh" is checked, then all changes will appear in preview window immediately. Otherwise you have to select "Refresh" item.

When "As is" checked, then pattern will be displayed without distortion given your computer monitor resolution. But in this mode the picture format is always incorrect.

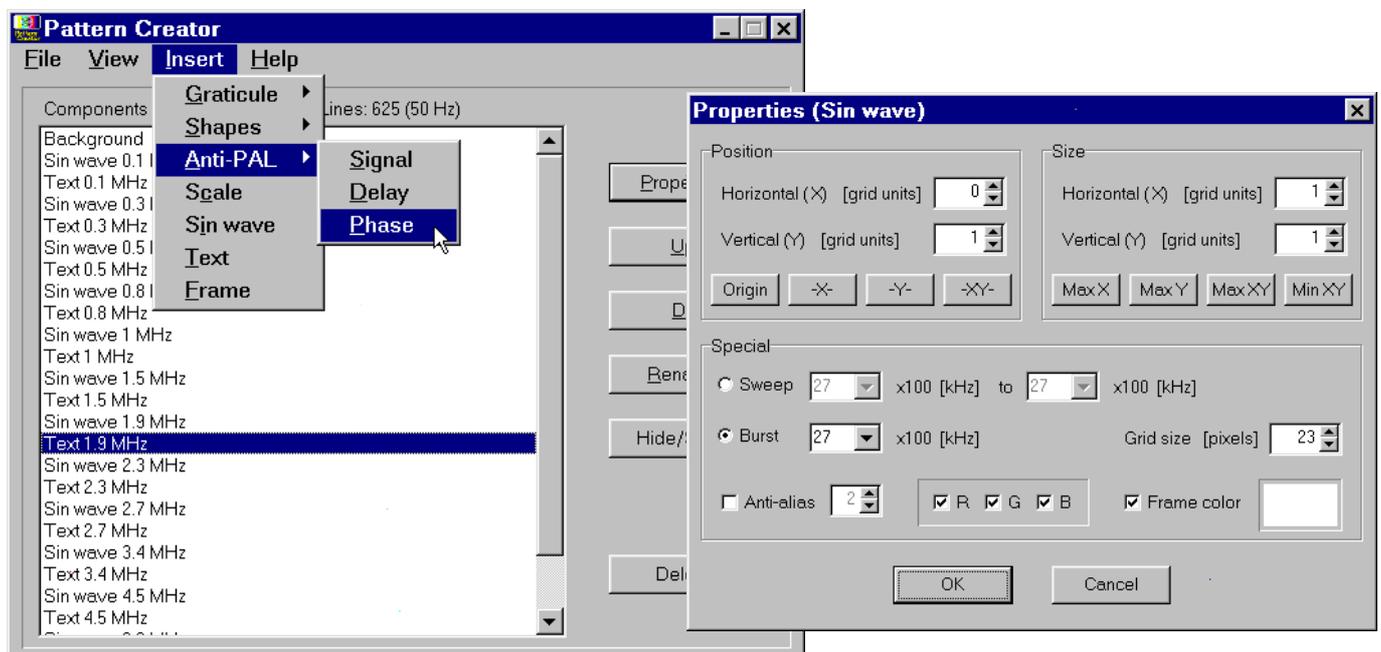
"Sizeable" item allows you to change size and picture format as you need (not available in "As is" mode). Use standard window elements to make this changes. Note, you change only preview window, not real pattern format. Pattern format is specified when you select "File/ New".

Insert

To insert a pattern component, use this menu item. Select required component from "Graticule", "Shapes", "Anti-PAL" signals, bars, sin waves and many other. After you select component, you can set its properties.

Help

If you need help, pick this menu item or press "F1" key.



Pattern Creator (pattern preview window is not visible)

Notes: