

Preface:

This document has been compiled in order to share a solution for a TimeBank scenario we've been requested to address. We believe this solution may be useful since it demonstrates various TimeBank capabilities in combination with TableK and TableQ. Those of you who are already familiar with TimeBank may find this information as a useful example of an additional implementation.

<u>Environment</u>: TK6, TK2000, TK-SQL

The scenario:

Employees (assigned to a weekly pay-period) are entitled to bank up to 6 hours of overtime per payperiod. Overtime in excess of 6 hours is automatically paid at the end of each pay-period. Banked overtime is usually, (but not always, see comment below) paid out every four pay-periods (i.e. every 4 weeks).

On occasion, as per individual employee request, banked overtime may be carried forward to the next 4-week cycle (instead of being paid out). Overtime hours that have been carried forward from a previous 4-week cycle, in addition to the banked overtime accumulated during the current 4-week cycle, are paid out at the end of the current 4-week cycle (unless the employee has requested again that the banked overtime be carried forward). The decision whether to override the automatic payout (and carry forward banked overtime) is a manual, discretionary activity.

Addressing this scenario cannot be handled within TimeBank alone. Thus we have combined TimeBank with TableK, TableQ and the Period Browser:

The solution involves the following major steps:

- 1. Defining pay-categories in TableA.
- 2. Setting up TimeBank.
- 3. Specifying end-of- period calculations in TableK.
- 4. Configuring the Pay-Period Browser screen.
- 5. Specifying payroll transfer conditions and values in TableQ.
- 6. Manual intervention and adjustments.

Step 1 - Defining pay-categories in TableA.

Define the following pay-categories in TableA:

Total OT	- Contains total of all types of OT pay categories.
Banked OT	- OT that will be banked (up to 6 OT hours per pay period)
Paid OT	- OT that will be paid (OT in excess of 6 hours per pay-period)
TB Period	- Specifies week number within TimeBank's cycle (i.e. 0,1,2,3).
Previous Bank	- Previous banked hours (banked OT from previous pay-period)



Current Bank - Current banked hours (number of banked OT following pay-period summary). **TB NOT TO PAY-** A manual indicator for cases when an employee wants to save banked hours for future purposes. Note that this pay-category must be set-up as "manual".

Notes:

- Both Banked OT and Paid OT are part of Total OT, since Banked OT are the hours to be banked and Paid OT are the hours to be paid. This relationship is specified in Step 3.
- Accumulating overtime pay-categories into Total OT can be done either by nominal value (i.e. an hour of 125% is transferred as 60 minutes to the Total OT pay-category) or by real value (i.e. an hour of 125% is transferred as 75 minutes to the Total OT paycategory). The type of transfer depends on the customer's requirements. In this scenario, hours have been accumulated by nominal value.

<u>Step 2 – Setting up TimeBank.</u>

Step 2.1 – System Configuration Activation

			Y E E I I	Y
Lime <u>Clock</u> (Polling) P	ayroll Interface	Y-I-D Definitions	Program Extensions	Absences
System Configuration	<u>D</u> ealer <u>S</u>	ecurity & Authorization	Language	<u>B</u> ackOp D <u>a</u> te & Time
Jser Name	SUPER C -	GREENFIELD		
Software ID	905374	Installation Date	21/10/1998 Versio	n 6.01
Maximum Employees	9999	Using Module ES	SHEL 🔲 Hotel Staff	Costing Module
Current No. of Emp.	191	PARTTIME Install	ed Production alled X Statutory H	Control Module
Contract Offset for Day Off	0	Dep-Allocation-P	'C Module 🕅 Year-To-Da	ate Module
Absence Code for Day Off	30	CanteenKeeper-I	PC Module 🔀 Schedule M Module 🛛 🕱 TIMEBANK	Aanager Module
Historical Retention Period (We	eks) 52	Madan Options	Not In Use	
	🗶 Use Pur	nch File		
Punches Saved for (No. of Days	999			μ



🔤 System Configuration	
Time Clock (Polling) Payroll Interface Y-T-D Definitions Rrinter & Rrinting File Duily Employee Improve Support	Program Extensions Absences
System Configuration Dealer Security & Authorization	Language Date & Time
Pre Daily Processing	Browse
Post Daily Processing	Browse
Daily Calculations Extension	Browse
Pay-Period Calculations Extension	EBANK Browse
TC Daily Calculations Extension	Browse
DA Daily Calculations Extension	Browse
TC Pay-Period Calculations Extension	Browse
DA Pay-Period Calculations Extension	Browse
Post Payroll File Creation	Browse
	µ

Step 2.2 - Specifying TimeBank (Table TB)

In this scenario, we are not required to use all of TimeBank's features (i.e. Positive Excess, Negative Excess, Minimum OT, Maximum OT, Additional Group etc.). Consequently, TimeBank's setup is quite simple.

TableTB		
Table 1		
Base Group	Ad	Iditional Groups
Time Bank Tracking Annual Topic for OT Hours Annual Topic for Deficiency Hours	1 Image: TimeBank OT 2 Image: TimeBank Definitions	Calculation Mode Regular
Time Bank Categories Previous Bank OT Hours Deficiency Hours ***	Is bank Positive Excess I DT Current Bank	××× 🛃 🛃 🗐 👻 🛃 🖉
Initialization Cycle Start Date 01/10/2000 Cycle Length 4 Initial Value 0.00	Group Parameters Maximum OT During Pay-Reriod 999.00 End of Pay-Period 999.00	Maximum Deficiency -999.00 -999.00
? 🖻 🔎		

The following definitions are required for each Table No. in TableTB:

• Tracked Values (source): Two Annual Topics Nos. The first Topic No., specifies the Annual Topic containing a reference to the Banked OT field in the pay-period summary file (PERIOD). The second Topic No., specifies the Annual Topic containing a reference to a field designated as the DEFICIENCY field in the pay-period summary file (PERIOD). Note, that as in our scenario, the requirement is only to bank overtime hours,



the TIMEBANK DEFICIENCY topic can refer to any "unused" pay-category (whose value is assumed to always equal zero).

E	🔄 Ann	ual Topic Definition	15				-IIX
	Topic No.	Topic Name	Topic Code	Target File	Expression Source File	Expression	Expression Type
	1	TIMEBANK OT	Auto	ANNUAL	PERIOD	PERIOD->CA	Hours/Minutes
	2	TIMEBANK DEFIC	Auto 🔸	ANNUAL	PERIOD	PERIOD->CA	Hours/Minutes
	•						
	?] 🔳 🛙		3 🚡			P

- Calculation Mode: Specify "Standard" calculation mode.
- Result Storage Categories (target): Specify where the TimeBank values will be stored (after the TimeBank calculation is complete) as per the definitions in TableA.
- Cycle Definitions: Specify the "cycle length" as 4 (pay periods).
- Limits Definitions: Specify the minimum & maximum limits as -999.00 and 999.00 respectively (i.e. no limits).

<u>Step 3 – Specifying End-of-Period process in TableK</u>

In our scenario we accrue (nominally) all OT pay-categories into **Total OT**. Then we divide the hours in **Total OT** as follows: up to 6 hours to **Banked OT** and the rest to **Paid OT**. This process is run <u>at the end of the Pay Period</u>. This it is defined in TableK.



ĨŔ	Tab	le K - Pay	Period Sta	ndards							_ 🗆 🗵
Г	—т	able Numbe	er	_	Table	e Description	n <u>—</u>	Perio	d Code —	Period Code	e Name —
	1		±					1	<u>+</u>	Hebdo	
							~				
		General Da	ata	For	mula:01	d Type	Formu	la:New	Туре	Pay-Perio	d OT limit
	Line	Field Type	Check Field	Low Bound	Upp Bound	Field Type	Update Field	Const	Field Type	Mult Field	Mult Consta
	1	From	Suppl	0.01	9999.1	From	Total OT	0.00	From	Suppl 1.5	1.00
	2	From	Total	0.01	5.99	From	Banked	0.00	From	Total OT	1.00
	3	From	Total	6.00	9990.1	From	Banked	6.00	From		0.00
	4	From 💌	Total	6.00	9990.1	From	Paid OT	-6.00	From	Total OT	1.00
	•										
	?		* * **								

- Line 1: Move all types of OT categories to **Total OT**
- Line 2-4: If Period \rightarrow Total OT < 6 Then Move Total OT to Banked OT If Period \rightarrow Total OT \geq 6 Then Move 6 to Banked OT Else Move (Total OT-6) to Paid OT.

Additionally, we require a field, which will indicate when we have reached the 4th week within a cycle (i.e. an "End of TimeBank Cycle" field). To that end, we define a pay-category in TableK as follows:

🎇 Table K - Pay Period Sta	ndards		
Table Number	 Table Description 	Period Code	- Period Code Name
1		1 🛨	Hebdo
General Data	Formula:Old Type	Formula:New Type	Pay-Period OT limit
Condition	Calculation Expression	Field Ty Tr	ansfer To Fiel Calculation Order
2 > 1 MOD (VAL(SUBSTR	(STR (PERIOD->PERIOD_KEY,6	6,0) ,5,2)) ,4) Fror TE	3 Period Standard
			F
? 📟 🐮 🖽	3		🖪 🔟 🝘 📭



The expression **MOD** (VAL (SUBSTR (STR (PERIOD->PERIOD_KEY, 6,0), 5,2)), 4) enables us to determine whether it is the end TimeBank cycle, as the end of a cycle occurs when the result is 0 (Zero).

Example: MOD (VAL (SUBSTR (STR (200005,6,0), 5,2)), 4) =1

Explanation: We refer to 05 (of 200005) and divide it by 4. The remainder is 1 (i.e. 5/4 = 1 (1)). This remainder is saved in the **TB PERIOD** pay-category. We will use this pay-category in TableQ, as explained in *Step 5*.

<u>Step 4 – Configuring the Pay-Period Browser screen.</u>

To display the results of TimeBank categories we configure the Pay-Period Browser so that it displays all TimeBank related pay-categories as following:

Z	Ed	it Pay-Pe	riod Sun	mary File						_	
<u>F</u> il	e j	<u>R</u> ecord <u>F</u>	Records Ty	ype <u>S</u> ecor	ndary File	<u>H</u> elp					
	Þ	1			Į.						
	Em	ployee :	1262	ROSSIGNO	L SYLVIE		Pay-Pe	riod Type: H	ebdo Period	l : 1 Year : 20	000
		Period Code	Period Key	TB Period	Total OT	Paid OT	Banked OT	Previous bank	Current bank	IITB NOT TO PAYII	
		þ	200041	1.00	64.12	58.12	6.00		6.00		
		1	200042	2.00	43.30	37.30	6.00	6.00	12.00		1
		1	200043	3.00	60.42	54.42	6.00	12.00	18.00		1
		1	200044		42.00	36.00	6.00	18.00	24.00		1
		1	200045	1.00	44.30	38.30	6.00		6.00]
		1	200046	2.00	44.30	38.30	6.00	6.00	12.00		1
		•									Þ

Please note: usually, the pay period browser enables the user to (manually) change each category's value. However, as in this scenario the "banking" process is assumed to be fully automatic, it is highly recommended to configure all categories (except the **TB NOT TO PAY** category) as "Read Only".

As always, we do not recommend changing any pay-categories in the Pay-Period summary file, since recalculation overrides all manual entry changes.

We use the **TB NOT TO PAY** category to disable the automatic payment of **Current Bank** at the end of TimeBank cycle (as explained in *Step 5*).

Step 5 – Specifying payroll transfer conditions and values in TableQ.



This step handles the issue of whether **Current Bank** is to be exported to payroll or not. In order to decide if **Current Bank** is to be exported, we check that both categories **TB NOT TO PAY** (CAT17) and **TB Period** (CAT18) are equal to Zero.

A value of zero (0) in the **TB Period** field signifies that this is the end of TimeBank cycle. A value of zero (0) in the **TB NOT TO PAY** field signifies that no manual indication has been entered (requesting that **Current Bank**'s value be carried forward to the following TimeBank cycle and not be transferred to payroll).

👸 Table Q - Payroll Transfer Definitio	ons	<u> </u>
Table Number 2	Table Description	Legend Quantity Code Constant Identifier
Form Name 1 Image: Second	Image: Use Fields Image: Omega Image: Use Absence Codes Image: Omega Field PERIOD - (P.F. Field Current bank Field Type Hours/Minute Code 0 Condition time2min(PER)	Use Expression . Attn./Abs. Tota . Replace . S Field . Cancel . IOD->CAT17)+time2mi
1 2 3 •	4 5 6 7	8910



The condition used in TableQ is as follows:

Expression Builder (Ma	ximal Length : 120, Current Length : 49)			×
	Expression String			
time2min(PERIOD->CAT	17)+time2min(PERIOD->CAT18)=0			A
				V
File Name	File Description	1	Functions	
EMPLOY1	EMPLOY1 (Extended Emp. Details 1/Shared)	1		
PERIOD	PERIOD -(P.P. Attn./Abs. Totals/TK)		String	
-				
Field Name	Field Description		<u>M</u> ath	
CAT15	××		Logic	
CAT16				
	ITR Period		Date / Time	_
CAT19	CAT19		·	
	1	J	<u>A</u> dditional	
	<u>O</u> k	el		

Note: Obviously, the Paid OT pay-category should be <u>unconditionally</u> transferred to payroll at the end of <u>every</u> pay-period.

<u>Step 6 – Manual intervention and adjustments.</u>

Example 1: A fully automated process (i.e. no manual adjustments).

The previous steps described a "fully automated" process, which banks up to 6 OT hours and pays the rest of the OT hours (in case there are any) per Pay Period e.g.:

- Pay periods 41 44 represent a single cycle.
- **TB period** represents the week no. within the cycle.
- The employee has more than 6 OT hours in each Pay Period (week)
- Banked OT is always "6" (since the employee has more than 6 OT in each week)
- Paid OT = Total OT Banked OT
- Current Bank initializes at the beginning of every cycle. Note when **TB period** = 1.
- Note: In a "fully automated" process this screen may used to display the results calculated by TimeBank and TableK. However, there are cases where this screen enables us to intervene manually with calculations as in the following example.



2	Ed	lit Pay-Pe	riod Sum	mary File						_	
E	le	<u>R</u> ecord <u>F</u>	<u>R</u> ecords Ty	pe <u>S</u> ecor	ndary File	<u>H</u> elp					
	Þ	a 🚬		-	Į.						
	Em	ployee :	1262	ROSSIGNO	L SYLVIE	5	Pay-Pe	riod Type: H	lebdo Period	: 1 Year : 20	000
		Period Code	Period Key	TB Period	Total OT	Paid OT	Banked OT	Previous bank	Current bank	ITB NOT TO PAYII	
	►	1	200041	1.00	64.12	58.12	6.00		6.00		
		1	200042	2.00	43.30	37.30	6.00	6.00	12.00		
		1	200043	3.00	60.42	54.42	6.00	12.00	18.00		
		1	200044		42.00	36.00	6.00	18.00	24.00		
		1	200045	1.00	44.30	38.30	6.00		6.00		
		1	200046	2.00	44.30	38.30	6.00	6.00	12.00		
		•									►

Example 2: Manual intervention required.

Manual intervention is required <u>only when the organization enables the employee to carry</u> <u>forward banked hours for future use</u> (i.e. <u>not to pay</u> OT hours and <u>carry forward</u> the Banked OT to the following cycle).

To enable carry forward of the banked hours and avoid payment, two steps are required:

- a. Disable Current Bank payment
- b. Enable carry forward of the banked hours.

a. Disabling Current Bank payment

After TK's pay-period summary has been performed and before exporting to Payroll, the user must enter a positive value (any value which is bigger than 0) to the **TB NOT TO PAY** category in the period browser. It is essential that this value be entered in the pay-period record of the <u>last week in the cycle</u> (i.e. **TB period** = 0, period 44 in the following example).

Em	🔙	1262	ROSSIGNO	IL SYLVIE	:	Pay-Pe	riod Type: H	lebdo Period	1:1 Year:20	000
	Period Code	Period Key	TB Period	Total OT	Paid OT	Banked OT	Previous bank	Current bank	ITB NOT TO PAYII	
	1	200041	1.00	64.12	58.12	6.00		6.00		
	1	200042	2.00	43.30	37.30	6.00	6.00	12.00		
	1	200043	3.00	60.42	54.42	6.00	12.00	18.00		
Ì	1	200044	()	42.00	36.00	6.00	18.00	24.00	1 -	
	1	200045	1.00	44.30	38.30	6.00		6.00		1
	1	200046	2.00	44.30	38.30	6.00	6.00	12.00		1



This definition indicates that TimeKeeper should not export to payroll this employee's banked hours, as defined in step 5 / **TableQ**.

b. Enable carry forward of the banked hours.

Carrying forward the banked hours is a complementary procedure to the previous step. While Step (a) disables the automatic payout, Step (b) enables the employee to carry forward the banked hours to the following cycle, so that they may be used for future purposes.

In order to specify the carry forward value, enter the Edit/View Employee screen, display the relevant employee's data and then select the EMPLOG icon. When the EMPLOG screen appears, define a new record within the **EMPLOG file** as following:

📑 Employee							
Employee Numbe	er	Last Name	First	Name	Mid Init		
1262	1262 E ROSSI		SYLVIE				
Addresses	Scheduling / Imp	oro Data I	My bar tab				
General Details	General Details Additional Key Fi		ields Y Premium & Part Time Y Seniority/Cos				
Plant La Site 1	Updated 04/12/2000 12:38:04 televice Computers Ltd.	Contract Contract Name Absence Code Absence Name Badge Number	10	'alid From 01. 1/2000 - 05. AID	/12/2000 More /01/2000 More		
Name Ma	ain Plant	Payroll Table	1000 👤 Deb	ora's Challenge -	The		
Department 5 Name Pa	inting	Pay Period Type	Monthly	<u> </u>	J		
? 🔢 🔎				<u>></u>	ŀ		

	h Fi	ile Changes : DEmplog							_ 🗆 🗵
1		Employee Number Last Name							
1		1262 ROSSIGNOL						YLVIE	
		Group Code	From Date	TIMEBANK Number	TIMEBA Group	Manual Upd Decimal	Start Value	•	
		Initialze/Change	03/01/200	1	0	0.000	0.000		
	Ì	Manual Hours Adjustment	29/10/200	1	0	24.000	0.000 🔶		
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		? 🗾 🗄	,					£ 🗇	ŀ



Meaning, the employee has accrued 24 hours in the previous cycle and is entitled to carry forward those hours to the next cycle. Viewing the **Period browser** after running pay period calculation, displays continuance of banked hours:

Z	Ed	it Pay-Pe	riod Sum	mary File							
<u>F</u> il	e j	<u>R</u> ecord <u>F</u>	<u>}</u> ecords Ty	ype <u>S</u> ecor	ndary File	<u>H</u> elp					
	Þ	8 🚆	1	₽	Į.						
	Em	ployee :	1262	ROSSIGNO	IL SYLVIE		Pay-Period Type: Hebdo Period : 1 Year : 2000				
		Period Code	Period Key	TB Period	Total OT	Paid OT	Banked OT	Previous bank	Current bank	ITB NOT TO PAYII	
	▶	1	200041	1.00	64.12	58.12	6.00		6.00		
		1	200042	2.00	43.30	37.30	6.00	6.00	12.00		
		1	200043	3.00	60.42	54.42	6.00	12.00	18.00		
		1	200044		42.00	36.00	6.00	18.00	24.00		
		1	200045	1.00	44.30	38.30	6.00		30.00		
		1	200046	2.00	44.30	38.30	6.00	30.00	36.00		
		•									Þ

An example to carrying forward banked hours is given in period 200045: The employee starts a new cycle (TimeBank cycle) with previous bank of 24 and accrues 6 more hours, thus the current bank is 30.

Important!

Additional (more detailed and comprehensive) information about setting up and using the TimeBank module can be found in the "TK5 Flextime TimeBank Management" document included with the latest V6.01 CD.